



Postscript to IAHS Newsletter 83 (July 2005)

The final Symposium report from VIIth IAHS Scientific Assembly *Foz do Iguacu, Brazil, 3–9 April 2005*

Groundwater Resources Sustainability Indicators, S3

Main convenor: Bruce Webb

This Symposium took place on Wednesday 6th and Thursday 7th April, 2005. It was dedicated to the memory of Joop Steenvoorden who, as President of the International Commission of Water Quality, had taken a leading role in developing the ideas for a meeting on sustainability indicators for groundwater resources, but who very sadly and unexpectedly passed away in June 2004.

The Symposium attracted an audience of 20–30 throughout, and in the first session, the papers introduced the topic and focused on the general issues of the indicators and indices appropriate for classification. A keynote address by Jaroslav Verba and his colleagues set the scene very well, and was followed by an entertaining and informative presentation by Roger Parsons, which focused more on specific approaches for classifying groundwater in South Africa.

Modelling was the second theme addressed, and Mary Hill gave a very erudite exposition of the use of models to manage systems subject to sustainability indicators, while Jonathan Whittier presented an interesting account of the use of a groundwater flow model to assess sustainability of riparian habitats in the Lower San Pedro River basin (USA). This was followed by a presentation from Maciek Lubczynski which demonstrated well how modelling studies in Spain (Sardon area) and Botswana (Serowe area) have been used to analyse sustainability of groundwater resources under different hydrogeological conditions and different degrees of socio-economic impact.

The final session of the first day addressed the theme of irrigation and agriculture and included three fascinating presentations from contrasting areas by Abelardo Montenegro and his colleagues dealing with small-scale irrigation in northeast Brazil, by E. P. Querner and his colleagues who explained the use of performance indicators in analysing irrigation water use in the Mendoza area of

Argentina, and by Qihong Tang and his colleagues, who discussed hydrological processes in the intensively cultivated alluvial plain in the arid upper Tarim River of central Asia.

The programme during the second day was somewhat disrupted by a number of “no-shows” and had to be re-arranged and consolidated to a certain extent. Papers continued the theme of irrigation and agriculture, but also introduced new topics focused more on the quality of groundwater, as well as its quantity, and included discussion of nitrates, surface-groundwater interactions and contamination by industry. The latter included interesting presentations by Mónica D’Elia and her colleagues concerning the role of wetlands in mediating the local impact of industrial effluent in Bahco, Argentina, and by P. Rajendra Prasad and his colleagues, who analysed the role of water quality and groundwater fluctuations in understanding sustainable development and management of groundwater resources in the coastal and urban aquifers of Visakhapatnam, India.

Eduardo Kruse and his colleagues provided further information in the context of irrigation and agriculture through a fascinating presentation on water table fluctuations in the northwest regions of the Buenos Aires Province of Argentina, while Ian Foster and his colleagues very ably demonstrated the use of geoinformatics to estimate nitrate leaching to groundwater in the Azraq Basin of Jordan. The different and intriguing approach of using isotopes to study surface-groundwater interactions was explained in a lively presentation by Xia Jun and his colleagues.

The presented papers were of high quality and generated good discussions. Although it was not possible to pre-publish the proceedings of this Symposium, it is hoped a volume will be produced before the end of 2005. Great thanks are due to my co-convenors, Jaroslav Verba, Ricardo Hirata and Eduardo Kruse, not only for their help in preparing the proceedings, but also in the process of selecting papers for this successful event.

Bruce Webb, University of Exeter, UK

Hydrological Sciences Journal *Impact Factor now 1.326*

In the latest ISI journal citation report (2004 JCR Science Edition), the impact factor (IF) of *HSJ* has increased to 1.326. *HSJ* is ranked eleventh in terms of IF in the ISI water resources list (55 journals), and among the top 11, *HSJ* comes second in terms of its immediacy index, 0.382.

Online access to *HSJ* is available free of charge to individual and institutional subscribers of the print journal. Non-subscribers can view the Table of Contents and Abstracts of papers in the current and two preceding volumes (48 & 49) by clicking *HSJ Online* at the IAHS website. Non-subscribers can purchase individual papers using the pay-per-view facility.

Availability of IAHS Publications in Developing Countries

In the last IAHS Newsletter, NL82, it was anticipated that the list of libraries receiving publications free of charge from IAHS would have been finalized in time for inclusion in NL83. It has not been possible to complete the list as yet, although another six organizations in addition to those listed in NL82 are now receiving publications. They are:

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 Departamento Ingeniera Civil
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Multi-lingual Resources for Hydrologists

Dictionary of Hydrological Engineering Lexique hydrologique pour l'ingénieur

Coordinated by V. Andréassian
 With contributions from V. Andréassian, V. Sarkissian, W. Chelmicki,
 V. A. Stănescu & R. Moussa.

Cemagref Editions, Antony, France, 2005
 213 + xxvii pp. ISBN 2-85362-648-2. Paperback. Price €50

The dictionary can be downloaded free of charge at:

http://www.cemagref.fr/Informations/Produits/Lexique_hydro/index.html

Contains a collection of 1936 terms in hydrology and related fields (hydroengineering, hydroclimatology, hydrogeology, hydraulics, metrology, water supply, geomorphology, physical hydrology) in seven languages (English, French, Armenian, Russian, Polish, Romanian, and Arabic).

Electronic version of the WMO/UNESCO International Glossary of Hydrology

Access the glossary free of charge at:

<http://www.cig.ensmp.fr/~hubert/glu/aglo.htm>

The second edition of the Glossary contains 1418 terms in 14 languages, including brief definitions, hundreds of pictures and a (short) video.

Hydrology: A Question of Balance

By J. V. Sutcliffe

A unique hydrology text bringing hydrological analysis to life by means of examples: applied problems that had to be tackled (often despite limited data, resources and time) are explained with the methods used to find a solution.

John Sutcliffe offers the experience of a hydrologist with extraordinary practical expertise: projects in many countries, from Sudan to India to Poland and the UK. Practising hydrologists and engineers, as well as students, will learn from this volume, which complements standard hydrology textbooks. Sponsored by the *International Water Management Institute (IWMI)*, Colombo, Sri Lanka.

Special Publ. 7 (2004) ISBN 1-901502-77-5; 200 + xviii pp.; £30.00

The Basis of Civilization – Water Science?

edited by John C. Rodda & Lucio Ubertini

- Can history teach us how to combine politics and religion with water science and technology?
- What is the current role of water science?

Papers selected from an international symposium (Rome, 2003), that will broaden the perspective of all involved in hydrology.

In his introduction Jim Dooze explores the linkages between *hydrology and society through history* and outlines the slow development of water technology and the even slower development of water science; other authors provide examples. *The impact of water resources development and management on society* is discussed from political, economic and cultural viewpoints. *Approaches to risk and conflict* involving water are considered in detail and issues of *governance, past and present*, are also reviewed. Contributions from the UN (achievements of the 2003 International Year of Freshwater); FAO (water and food security), and IAEA (on-going contributions to isotope hydrology), are included.

Publ. 286 (2004) ISBN 1-901502-57-0; 342 + x pp.; £58.50

Scales in Hydrology and Water Management

Echelles en hydrologie et gestion de l'eau
 edited by Ioulia Tchiguirinskaia, Mike Bonell & Pierre Hubert
 A joint IAHS/UNESCO-IHP publication.

A collection of essays by scientists and engineers currently tackling the issues of scale dependence in hydrological phenomena and water resources management. The question of how different scales interact and how we can transport results from one scale to another is basic to hydrological understanding and strategically important for operational hydrology. To answer this, a proper grasp of the interactions at different scales between the atmosphere, lithosphere, hydrosphere and biosphere, and their relations to human activities is needed.

Publ. 287 (2004) ISBN 1-901502-62-7; 170 + x pp.; £36.95

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 Special Publ. 7: £10; Publ. 286: £11.70; Publ. 287: £10.

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