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Michael J. Kirkby

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Publ. 342 (Feb 2011)
ISBN 978-1-907161-16-2, 512 + xvi pp. Price £97.00

Groundwater is a vital resource and a conveyor belt for dissolved and particulate matter. It is a crucial component of local, regional and global water cycles, and the quality of groundwater is inextricably linked with global environmental and social viability. The GQ10 conference (June 2010) focused on the need to manage, sustain, repair and protect groundwater quality under rapidly changing climatic and global conditions. The aim was to build a bridge between contaminant hydro(geo)logy to other scientific disciplines and to society. The 115 contributions in this volume address the issues.

Calibration and Reliability in Groundwater Modelling: Managing Groundwater and the Environment

Edited by **Yanxin Wang, Shemin Ge, Mary C. Hill & Chunmiao Zheng**

Publ. 341 (Feb 2011)
ISBN 978-1-907161-15-5, 274 +10 pp. Price £60.00

This peer-reviewed collection of papers was selected from the seventh conference in the ModelCARE series on Calibration and Reliability in Groundwater Modelling. The most important contributions are included here and deal with:

- New advances and innovations in model calibration, model prediction, sensitivity analysis, and uncertainty assessment
- Parameterizing groundwater models
- Construction, calibration, reliability and use of models designed to address resources and environmental concerns
- Modelling of CO₂ sequestration and other groundwater model applications

friend 2010

Global Change: Facing Risks and Threats to Water Resources

Edited by **E. Servat, S. Demuth, A. Dezetter & T. Daniell;**
Co-edited by: **E. Ferrari, M. Ijjaali, R. Jabrane, H. Van Lanen & Y. Huang**

Publ. 340 (Oct 2010)
ISBN 978-1-907161-13-1, 704 + xiv pp. Price £115.00

The contributions address: Hydro-hazards, Adaptation Strategies, Human Pressure on Limited Resources, Environmental Information and Monitoring Systems, and Large Scale Hydroclimatic Variability and Impact; these are the edited proceedings of the 6th World FRIEND Conference. FRIEND (Flow Regimes from International Experimental and Network Data) is an international research programme that helps to set up regional networks for analysing hydrological data, and aims to improve understanding of hydrological variability and similarity across time and space through mutual exchange of data, knowledge and techniques.

Land Subsidence, Associated Hazards and the Role of Natural Resources Development

Edited by **D. Carreón-Freyre, M. Cerca & D. I. Galloway;**
Technical editor:
J. Jesús Silva-Corona



Publ. 339 (Oct 2010)
ISBN 978-1-907161-12-4, 522 + xiv pp. Price £97.00

Land subsidence is a global problem affecting major urban centres and engineering facilities (e.g. mining, water distribution and storage, railroads and ports) worldwide, but the mitigation and solution of each case demands knowledge of the characteristics of the affected area.

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Multidisciplinary research into land subsidence phenomena, caused naturally or by groundwater extraction, demonstrates a growing need to incorporate new perspectives in risk analysis and planning of urban development in susceptible areas. The subsidence research presented at EISOLS2010 reflects the state of the art internationally.

Hydrocomplexity: New Tools for Solving Wicked Water Problems



Edited by S. Khan,

H. H. G. Savenije, S. Demuth & P. Hubert

Publ. 338 (July 2010)

ISBN 978-1-907161-11-7, 272 + x pp. Price £55.00

Human activities have become major drivers of change in the Earth's biosphere, resulting in deterioration of water quality, over-exploitation of freshwater resources, adverse effects of hydrological hazards and landscape degradation, which make water problems complex and wicked. The same activities also affect the functioning of ecosystems and their ability to provide the goods and services on which human well-being depends. There is a need for community-based transdisciplinary management tools to provide better understanding of water as both an abiotic resource and as a service delivered by ecosystems.

Sediment Dynamics for a Changing Future

Edited by K Banasik, A. J. Horowitz,

P. N. Owens, M. Stone & D. E. Walling

Publ. 337 (June 2010)

ISBN 978-1-907161-10-0, 376 + viii pp. Price £74.00

This book advances understanding of erosion and sedimentation in relation to sediment dynamics and river water quality. *Human Impact on Sediment Budgets* is concerned with the influence of land-use change on sediment yields and/or fluxes. *Structure, Functioning and Management of Fluvial Sediment Systems* provides valuable information on the dynamics of flood-plain sedimentation, temporal variation of sediment parameters and the influence of sediment on aquatic ecosystems. *Experiment-based and Modelling Approaches to Sediment Research* highlights the role of monitoring and modelling studies in improved understanding of catchment sediment dynamics, sediment fluxes and water quality.

Status and Perspectives of Hydrology in Small Basins

Edited by A. Herrmann & S. Schumann.

Co-editors: L. Holko, I. Littlewood, L. Pfister, P. Warmerdam & U. Schröder

Publ. 336 (May 2010)

ISBN 978-1-907161-08-7, 314 + xii pp. Price £65.00

Only in well-defined small basins with high-quality measurements can the complexities of combined physical, chemical and biological processes be adequately investigated. This volume, an outcome of the Workshop held at Goslar-Hahnenklee, Germany, focuses on:

- Operational small research basins
- Fundamental hydrological research results drawn from small basins
- Hydrological processes
- Importance of small basin data and results for hydrological modelling

and includes the Braunschweig Declaration on: *The need for a global network of long-term small hydrological research basins.*

Leonardo Da Vinci's Water Theory: On the origin and fate of water

by Laurent Pfister, Hubert H. G. Savenije & Fabrizio Fenicia

Leonardo Da Vinci (1452–1519) was not only one of the greatest artists of his time, he was also an engineer and scientist. A large part of his scientific work was to understand the movement, circulation and physical characteristics of water and he came close to our definition of the hydrological cycle, recognising that water passes through the major river systems countless times, summing up to volumes much greater than those contained in the world's oceans.

This book, illustrated with Da Vinci's sketches, carefully reports his work and provides a modern hydrological backdrop.

Fascinating, revealing and inspiring

Special Publ. 9 (2009) 92 + xx pp. £25.00

ISBN 978-1-901502-34-3

Hydrological Modelling and Integrated Water Resources Management in Ungauged Mountainous Watersheds

Edited by Wei-Lin Xu, Tian-Qi Ao & Xin-Hua Zhang

Publ. 335 (December 2009)

ISBN 978-1-907161-07-0, 310 + x pp. Price £65.00

Some 40 contributions address:

- Modelling and predictive uncertainty
- New observation techniques and hydrological processes
- Integrated water resources management
- Eco-environmental protection

These were selected from papers presented at the Second IAHS-PUB International Symposium on Hydrological Modelling and Integrated Water Resources Management in Ungauged Mountainous Watersheds in China. The China Prediction in Ungauged Basins (PUB) organization focuses on the new methodology of hydrological simulation and prediction under natural and human-induced global changes.

Groundwater and Climate in Africa

Edited by Richard Taylor,

Callist Tindimugaya, Michael Owor & Mohammad Shamsudduha

Publ. 334 (October 2009)

ISBN 978-1-907161-05-6, 276 + xii pp. Price £65.00

Current assessments of the impacts of climate variability and change on water resources commonly exclude groundwater, an omission of concern in Africa where current water usage and future adaptations in response to climate variability and change, together with population growth, place considerable reliance upon groundwater to meet domestic, agricultural and industrial water needs.

This collection of papers includes the Kampala Statement, and addresses:

- Impact of climate variability and change on groundwater-based livelihoods
- Impact of climate variability and change on groundwater and groundwater-fed ecosystems
- Monitoring and modelling groundwater use and replenishment
- Estimation of groundwater resources and demand under a changing climate
- Groundwater management in Africa

New Approaches to Hydrological Prediction in Data-sparse Regions

Edited by K. K. Yilmaz, I. Yucel, H. V. Gupta, T. Wagener, D. Yang, H. Savenije, C. Neale, H. Kunstmann & J. Pomeroy

Publ. 333 (2009)

ISBN 978-1-907161-04-9 344 + x pp. Price £66.00

When data are scarce, hydrological predictions become unreliable due to the inability to specify model components and parameter values that consistently represent the dominant hydrological processes in a given watershed, and due to the lack of high quality model forcing. This, a problem in developed and developing countries, is the focus of the research reported.

Hydroinformatics in Hydrology, Hydrogeology and Water Resources

Edited by I. D. Cluckie, Y. Chen, V. Babovic, L. Konikow, A. Mynett, S. Demuth & D. Savic

Publ. 331 (2009)

ISBN 978-1-907161-02-5 528 + viii pp. Price £92.00

A collection of peer-reviewed papers presented at a symposium of the same name held in September 2009, addressing: Whole system modelling and uncertainty; Hydrological applications of hydroinformatics, and Hydrogeological applications; and Modelling of large systems.

Improving Integrated Surface and Groundwater Resources Management in a Vulnerable and Changing World

Edited by G. Blöschl, N. van de Giesen, D. Muralidharan, Liliang Ren, F. Seyler, U. Sharma & J. Vrba

Publ. 330 (2009)

ISBN 978-1-907161-01-8 382 + x pp. Price £71.50

With the increasing difficulties of meeting human demands on water resource quantity and quality, new concepts in water management need to be explored, with a move away from centralised command and control approaches to more participatory multi-stakeholder approaches that have the potential to be more flexible and responsive.

FORTHCOMING

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FOREST HYDROLOGY

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volume, BM7 (2011)

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