

Available now in the Benchmark Papers in Hydrology Series

RAINFALL–RUNOFF MODELLING

Keith Loague

Loague notes that hundreds, if not thousands, of hydrologic-response models have been developed, but that not all were created equal. This volume reprints 30 papers that exemplify the best in rainfall–runoff modelling. It charts developments from Mulvaney's (1851) rational method for estimating peak flow, probably the first rainfall–runoff model, up to 1989. Papers on other empirical approaches, such as Sherman (1932) and Mockus (1949), are reprinted. As are Richards (1931) and Smith & Parlange (1978), the innovative contributions of Alan Freeze, and later Keith Beven, and the seminal papers of Moore & Clarke (1981) and Abbott *et al.* (1986).

ISBN 978-1-907161-06-3 (2010)

A4 format, hardback, 512 pp, £65.00

STREAMFLOW GENERATION PROCESSES

Keith J. Beven

ISBN 978-901502-53-4 (2006)

A4 format, softback, 432 pp, £40.00

EVAPORATION

John Gash & James Shuttleworth

ISBN 978-901502-98-5 (2007)

A4 format, softback, 526 pp, £40.00

GROUNDWATER

Mary P. Anderson

ISBN 978-901502-74-9 (2008)

A4 format, hardback, 626 pp, £55.00

Forthcoming volumes

Riparian zone hydrology and biogeochemistry

T. P. Burt, G. Pinay & S. Sabater

Hydrogeomorphology, Erosion and Sedimentation

Mike Kirkby

Forest Hydrology

David R. DeWalle



Sponsored by SAHRA,
University of Arizona

Just published

Groundwater and Climate in Africa

*Edited by Richard Taylor, Callist Tindimugaya,
Michael Owor & Mohammad Shamsudduha*

Publ. 334 (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. This omission is of particular 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. The Groundwater and Climate in Africa conference, held in Kampala, Uganda, in June 2008, was the first such conference in Africa, and one of the first globally to focus on the interactions between groundwater and climate variability and change.

This collection of papers selected from the conference includes the Kampala Statement, and addresses five themes:

- 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

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. Two hundred years before Newton, Perrault or Halley, he was doing hypothesis-driven science and describing hydrological processes, e.g. 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

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

When data are scarce, hydrological predictions become unreliable due to both the inability to specify model components and parameter values that consistently represent the dominant hydrological processes in a particular 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

Trends and Sustainability of Groundwater in Highly Stressed Aquifers

*Edited by M. Taniguchi, A. Dausman,
K. Howard, M. Polemio & E. Lakshmanan*

Publ. 329 (2009)

ISBN 978-1-907161-00-3 318 + x pp. Price £62.50

Population growth, urbanization and global climate change have increased urban and agricultural water demands, and stressed aquifer systems. The availability and utility of groundwater may also be threatened by factors impacting the water quality, such as industrial and domestic wastes and agricultural intensification.

Ecology of Surface and Groundwater Dependent Systems: Concepts, Methods and Recent Developments

*Edited by M. Thoms, K. Heal, E. Boegh,
A. Chambel & V. Smakthin*

Publ. 328 (2009)

ISBN 978-1-901502-99-2 240 + viii pp. Price £51

An exciting contribution to Ecology, representing an expansion of this emerging field from its initial focus on the relationships between water and vegetation in different landscape settings, to one that considers riverine landscapes and also groundwater systems and catchment land-use issues.