Trends and Sustainability of Groundwater in Highly Stressed Aquifers
Groundwater–Surface Water Interaction: Process Understanding, Conceptualization and Modelling
edited by C. Abesser, T. Wagener & G. Nuetzmann
There is a pressing need to identify and develop methods that provide an appropriate framework for the integrated investigation, conceptualisation and modelling of surface–subsurface systems and their interfaces. The increasing focus on understanding the impacts of climate variability and change on water resources and ecosystems requires connection of these systems to atmospheric variables. The aim of such a framework is to improve the conceptual understanding of groundwater–surface water interactions in different landscapes and at different scales, leading to robust algorithms for simulating the effects of management strategies on surface water/groundwater systems. The contributions were selected from a symposium during IUGG 2007 which provided a forum for scientists from many disciplines to advance the integrated analysis of groundwater/surface water systems. Publ. 321 (2008) ISBN 978-1-901502-59-6; 214 + x pp; £48.00

Calibration and Reliability in Groundwater Modelling: Credibility of Modelling
edited by J. C. Refsgaard, K. Kovar, E. Haarder & E. Nygaard
ModelCARE 2007 was the sixth in the international conference series on calibration and reliability in groundwater modelling. This volume contains 57 peer-reviewed papers selected from the conference and organised in the following themes:
- Development in modelling and uncertainty assessment
- Credibility in modelling for practical approaches
- New data types and monitoring systems
- Integrated hydrological modelling
- Reactive and density affected transport
- Parameter estimation and model calibration
- Geological models and conceptual model uncertainty
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A New Focus on Groundwater-Seawater Interactions
edited by Ward Sanford, Christian Langevin, Maurizio Polemio & Pavel Povinec
Water and chemical fluxes across the sea floor provide an important linkage between terrestrial and marine environments. Oceanographers recognize that these fluxes may act as a source of nutrients or harmful contaminants to marine systems. They may also act as a beneficial source of fresh-water for coastal estuaries that require relatively low salinities. Fluxes across the sea floor comprise an important part of the water balance for coastal aquifers. And, most fresh groundwater discharge to the ocean is derived from terrestrial aquifer recharge. However, excessive groundwater withdrawals from coastal aquifers can cause saltwater intrusion by intercepting the seaward flux. Quantitative estimates of fresh groundwater discharge toward the coast can provide a basis for determining safe withdrawal rates.
An outcome of a symposium organised jointly by the IAHS International Commission on Groundwater and the International Association for the Physical Sciences of the Oceans, IAAPSO, in 2007, the research presented here forms an important contribution to the literature. Publ. 312 (2007) ISBN 978-1-901502-04-6; 344 + x pp; £64.00

Calibration and Reliability in Groundwater Modelling: From Uncertainty to Decision Making
edited by M. F. P. Bierkens, J. C. Gehrels & K. Kovar
Selected papers from ModelCARE 2005, organized by topic:
- Use of geophysical and geochemical measurements, remote sensing, monitoring and a priori hydrological knowledge
- Calibration and parameter uncertainty
- Combined flow and transport: heterogeneity, parameters, processes
- Reliability of results/stochastic forward modelling
- Modelling of well capture zones
- Developments in modelling
- Decision making under uncertainty

Sustainability of Groundwater Resources and its Indicators
edited by Bruce W. Webb, Ricardo Hirata, Eduardo Kruse & Jaroslav Vrba
Groundwater indicators are based on monitoring and assessment programmes and are helpful for several reasons, e.g. they may be used to identify the state of the groundwater system, both in terms of its quality and quantity, and its evaluation over time and space; they also facilitate communication between policy makers and the general public. Indicators should be selected and developed which provide information on the threat to groundwater systems from the point of view of societal and ecological needs. Publ. 302 (2006) ISBN 978-1-901502-43-5; 220 + vii pp; £45.00

Permeable Reactive Barriers
edited by Genevieve A. Boshoff & Brian D. Bone
To meet the challenge of remediating polluted groundwater resources we need to look beyond traditional methods of cleanup and embrace “alternative” technologies, such as permeable reactive barriers (PRBs). They have had much success in the remediation of chlorinated solvent contaminated groundwaters and are gaining recognition for the treatment of other contaminants, inorganic and organic. Publ. 298 (2005) ISBN 978-1-901502-23-7; 163 + viii pp; £38.00

Bringing Groundwater Quality Research to the Watershed Scale
edited by Neil R. Thomson
Sustainable economic growth requires plentiful supplies of high-quality water. Pressure on resources globally has forced the international groundwater science, engineering and regulatory community to recognize current limitations of research and management. Integrated and technically feasible approaches tackling local issues and watershed-scale concerns concurrently are required. This volume, an outcome of GQ2004 (Waterloo, Canada) deals with Global and national perspectives, Contaminant input processes; Site characterization; Management and decision making; Natural attenuation processes and applications; In situ remediation; and Flow and transport modelling at various scales. Publ. 297 (2005) ISBN 978-1-901502-18-3; 576 + xxv pp; £85.00

Wastewater Re-use and Groundwater Quality
edited by Joop Steenwoordden & Theodore Enderlin
Re-use of treated wastewaters is important for conserving regional water resources. However, questions arise when this solution is envisaged, such as: Which pre-treatment is necessary? What are the pathogenic risks? What is the long-term environmental sustainability? These, and issues such as centralized vs de-centralized systems were discussed at a symposium jointly organized by IAHS, IAH and the UNESCO Division of Water Sciences. Publ. 285 (2004) ISBN 978-1-901502-62-7; 110 + vii pp; £29.30

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