

Preface

ModelCARE2009 was the 7th International Conference on *Calibration and Reliability in Groundwater Modelling*. It was held in Wuhan, China, on 20–23 September 2009 with the conference theme “Managing Groundwater and the Environment”. ModelCARE2009 was jointly organized by the International Commission for Groundwater (ICGW) of the International Association of Hydrological Sciences (IAHS) and the China University of Geosciences. Financial support was provided by the National Natural Science Foundation of China; China Geological Survey; the Xi'an Regional Center of China Geological Survey; and the International Research Center on Karst, Guilin, China.

ModelCARE2009 was a follow-up to previous successful conferences organized in association with IAHS in: The Hague, the Netherlands (1990); Golden, Colorado, USA (1996); Zurich, Switzerland (1999); Prague, Czech Republic (2002); The Hague, the Netherlands (2005); and Copenhagen, Denmark (2007).

Within the context of model calibration and reliability, the conference addressed various issues of groundwater quality and quantity, including recent advances in theories and methodologies of groundwater flow and transport modelling, applicability of various approaches to real-world problems, and needs for future development. This volume contains 43 papers selected from 143 manuscripts and abstracts submitted to ModelCARE2009 by researchers from 17 countries. These papers were selected by the editors according to the results of peer-review by the members of the Scientific Advisory Committee (SAC). The volume is organized according to the four main themes of the conference:

- 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

We would like to acknowledge the assistance from the SAC members who contributed to the success of the conference. Most also helped improve the quality of this volume:

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The books of papers selected from earlier ModelCARE conferences and published by IAHS

Calibration and Reliability in Groundwater Modelling: Credibility of Modelling ModelCARE 2007

edited by J. C. Refsgaard, K. Kovar, E. Haarder & E. Nygaard
Publ. 320 (2008) ISBN 978-1-901502-49-7, 358 + x pp. £67.00

Calibration and Reliability in Groundwater Modelling: From Uncertainty to Decision Making ModelCARE 2005

edited by M. F. P. Bierkens, J. C. Gehrels & K. Kovar
Publ. 304 (2006) ISBN 978-1-901-502-58-9; 316 + xii pp; £59.00

Calibration and Reliability in Groundwater Modelling: A Few Steps Closer to Reality ModelCARE 2002

edited by K. Kovar & Z. Hrkal
Publ. 277 (2003) ISBN 978-1-901502-07-7; 526 + x pp.; £78.80

Calibration and Reliability in Groundwater Modelling: Coping with Uncertainty ModelCARE 99

edited by F. Stauffer, W. Kinzelbach, K. Kovar & E. Hoehn
Publ. 265 (2000) ISBN 978-1-901502-36-7; 524 + xii pp.; now £15.00

ModelCARE 96, Calibration and Reliability in Groundwater Modelling

edited by Karel Kovar & Paul van der Heijden
Publ. 237 (1996) ISBN 0-947571-94-9; 606 + x pp.; now £15.00

ModelCARE 90, Calibration and Reliability in Groundwater Modelling (the first in the series)

edited by Karel Kovar
Publ. 195 (1990) ISBN 0-947571-67-1; 540 + xii pp.; now £15.00