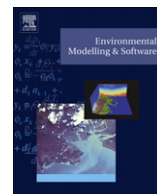Contents lists available at SciVerse ScienceDirect

Environmental Modelling & Software

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Editorial

Best Paper Awards for 2010

Environmental Modelling and Software aims to improve our capacity to represent, understand, predict or manage the behaviour of environmental systems at all practical scales, and to communicate those improvements to a wide scientific and professional audience. The journal focuses on contributions to: generic frameworks and techniques for multi-disciplinary/multi-sectoral issues; development and application of environmental models, software, information and decision support systems; and issues and methods related to integrated modeling, assessment and management of environmental systems.

The Editors are pleased to announce the winners of the Best Paper Awards for three exceptional papers published in 2010 that epitomise the aims and scope of the journal, under the categories of 'Generic Modelling and/or Software Methods', 'Software and Decision Support' and 'Integrated Modelling'. The shortlisted papers were of outstanding quality, innovative, and either interdisciplinary in their problem treatment or generic in their utility. We also looked for rigor in the testing and reporting of their model/software.

The "Best Paper 2010: Generic Modelling and/or Software Methods" was awarded to J.K. Ravalico, G.C. Dandy and H.R. Maier for "Management Option Rank Equivalence (MORE) – A new method of sensitivity analysis for decision-making." This paper presents a sensitivity analysis method, MORE, for models used to assist in the selection of two or more alternative management options. MORE determines the smallest and largest changes in model inputs that result in a change in the ranking of management options, using parameter bounding techniques and numerical optimisation. The authors demonstrate the method with a case study of the MSM-BIGMOD flow and salinity model.

The "Best Paper 2010: Software and Decision Support" was awarded to D. Karssenberg, O. Schmitz, P. Salamon, K. de Jong and M.F.P. Bierkens for "A software framework for construction of process-based stochastic spatio-temporal models and data assimilation." The authors present an extension of an existing PCRaster framework that supports the construction and optimisation of spatio-temporal numerical models and visualisation of model data. The integrated framework also allows users to easily switch between different modelling approaches and also to call external models. The software framework is illustrated with the implementation of a distributed snowmelt model and a distributed rainfall-runoff model.

For the final category, "Best Paper 2010: Integrated Modelling" was awarded to D.A. Hughes and D. Louw for their paper "Integrating hydrology, hydraulics and ecological response into a flexible approach to the determination of environmental water requirements." The authors present an integrated framework for estimating the low-flow component of environmental water requirements for rivers, designed to handle different types and resolutions of hydrological variability and ecosystem response data. The impacts of flow alteration are described by 'stress' indices, and any suitable method can be used to determine the relationship between 'stress' to flow, including expert opinion. The flexibility of the approach enables its application in a range of situations, including cases that involve limited data.

Congratulations to these three teams for their excellent work and valuable contributions to their fields.

Anthony Jakeman, Editor-in-Chief
Andrea Rizzoli, Editor
Alexey Voinov, Editor
Ioannis Athanasiadis, Editor
Thomas Berger, Associate Editor
Mark Borsuk, Associate Editor
Marcello Donatelli, Associate Editor
Giorgio Guariso, Associate Editor
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