A METHODOLOGY TO SUPPORT MULTIDISCIPLINARY MODEL-BASED WATER MANAGEMENT

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Submitted to Environmental Modelling & Software
Special Issue on *'Complexity and Integrated Resources Management'*

Abstract

Quality Assurance in model based water management is needed because of some frequently perceived shortcomings, e.g. a lack of mutual understanding between modelling team members, malpractice and a tendency of modelers to oversell model capabilities. Initiatives to support Quality Assurance focus on single domains and often follow a textbook approach with guidelines and checklists. A modelling process involves a complex set of activities executed by a team. To manage this complex, usually multidisciplinary process, to guide users through it and enhance the reproducibility of modelling work a software product has been developed, aiming at supporting the full modelling process by offering an ontological knowledge base (KB) and a Modelling Support Tool (MoST). The KB consists of a generic part for modelling, but also parts specific for various water management domains, for different types of users and for different levels of modelling complexity. MoST's guiding component filters relevant knowledge from the KB depending on the user profile and needs. Furthermore, MoST supports different types of users by monitoring what they actually do and by producing customized reports for diverse audiences. In this way MoST facilitates co-operation in teams, modelling project audits and re-use of experiences of previous modelling projects.

Keywords: Model-based water management; multidisciplinary modelling knowledge; ontological knowledge base; modelling support; Quality Assurance.

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