



Jun 26th, 2:00 PM - 3:20 PM

## A generic web-based DSS for modelling managed resource networks – Application to water systems

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Knox, Stephen; Harou, Julien J.; and Meier, Philipp, "A generic web-based DSS for modelling managed resource networks – Application to water systems" (2018). *International Congress on Environmental Modelling and Software*. 72.

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## A generic web-based DSS for modelling managed resource networks – Application to water systems

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**Abstract:** Moving from conceptual modelling of managed natural resource systems to real-world application presents the challenge of stakeholder interaction and understanding, remote model running, data management and efficient results analysis and visualisation. Frequently changing data inputs and model requirements coupled with strict deadlines necessitate a streamlined means to manage the input-run-analysis cycle. First, data management must be addressed, where data from past runs can be stored and accessed easily. Next a means to run the model remotely minimises the communication overhead, and allows simpler model management for upgrades and fixes. Finally a user-friendly interface and data & results analysis and visualisation suite allows the analyst to access results in their raw form or view them graphically for stakeholder engagement. We present an in-development web-based decision support framework which supports data management, cloud-based model instantiation and data analysis. The software can be connected to virtually any network-based model by virtue of its templating system, which allows it to represent a wide range of node and link types, non-physical hierarchy (groups of nodes & links) and a flexible data-type structure. Using the 'app manager', models can be connected by installing apps which translate the hydra data structures into the appropriate model, run the model and import results.

**Keywords:** Data Management, DSS, User Interface, Water Resource Management