Using OGC standards for data exchange between the environmental modelling framework JAMS and the environmental information system RBIS

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Abstract

To develop strategies for a sustainable use and management of environmental systems various different tools are needed. For example tools dealing with data management and environmental modelling. Such tools have been developed at the Department of Geoinformatics at the Friedrich Schiller University of Jena. One of them is the River Basin Information System (RBIS) which is a web-based platform for environmental data management and data sharing and addresses the management, analysis, visualization and presentation of different types of data in the context of multidisciplinary environmental planning (http://www.rbis.uni-jena.de). Another tool is the Jena Adaptable Modelling System (JAMS) for building, running and analyzing environmental simulation models (http://jams.uni-jena.de). There is an existing proprietary interface to exchange data between RBIS and JAMS, which is necessary to cover complex workflows. To enhance both systems to exchange data with other tools and also to standardize data exchange between them, a prototypical implementation using OGC standards (Sensor Observation Service (SOS) based on istSOS 1.0 and WaterML2.0) was developed.

We present a prototypical implementation of a Sensor Observation Service (SOS) in RBIS to provide environmental data and an interface for JAMS to retrieve data for environmental modeling using WaterML2.0 as time series encoding standard. After a short introduction to both systems, the implemented SOS and the JAMS interface will be shown. Finally we compare the new implemented interfaces using standardized for data exchange with the existing proprietary interface between RBIS and JAMS and give an outlook to further work.

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