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A component based framework for estimating the hydrological budgets of river Adige

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It is presented the framework and the model used for estimating the water budgets of river Adige. The water budget is estimated for any subbasins of the river requested by the user, an it is performed through a set of submodels and tools based on the Geotransf and GEOtop (www.geotop.org) models which estimate precipitatation, snow accumulation and melting, subsurface flow, runoff, water propagation in channels, and evapotranspiration. The model also contains a proper modeling of reservoirs and water intake. The modelling framework is based on international open source strandards. The data base is derived and based upon concepts developed by CUAHSI (www.cuahsi.org), built on PosgreSQL/PostGIS (www.postgresql.org). Hydrological submodels are connected using the Openmi (www.openmi.org) component framework in Java version. Visualization of data and results is performed through tools based on JGrass (www.jgrass.org).