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SWAT hydrological model as a DaaS cloud service

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Abstract

Earth Science community depends on the exploration, analysis and reprocessing of high volumes of data as well as the modeling and simulation of complex coupled systems on multiple scales. The main aim of this article is to introduce a new hydrological modeling service based on the Soil and Water Assessment Tool (SWAT) (Arnold et al. J American Water Resour Assoc **34**(1), 73–89, 1998 ; Arnold and Fohrer Hydrol Process **19**(3), 563–572, 2005) model using high efficiency, resource sharing and low cost cloud computing resources (Astsatryan et al. International Journal of Scientific & Engineering Research **1**(1), 1130–1133, 2014). Such a Desktop as a Service (DaaS) approach allowing users to work from anywhere, and gives centralized desktop management and great performance. Within the Spatial Data Infrastructure (SDI) and cloud platform, the DaaS service gives secure access to the model and a centralized data storage to get a SWAT model input. The article

illustrates the analyses of the implementation of the SWAT model for the Sotk watershed of Lake Sevan in Armenia (Sargsyan 2007).

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