

GEOtop/OMS3 - Model Integration and Case Study

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Abstract. The paper presents the integration of the GEOtop model into the Object Modeling System version 3.0 (OMS3) and its application. GEOtop is a physically based spatially distributed rainfall-runoff model, performing water and energy budgets. The OMS3 integration widened the application range of GEOtop as presented in the paper. By running GEOtop as an OMS3 model component it can interact with the GIS uDig-JGrass to utilize other geo-processing, visualization, and modeling components. Furthermore, OMS3 components for automatic calibration, sensitivity analysis, or meteorological interpolation can now interact with GEOtop. Finally, a case study of the model application is presented. Results in terms of soil water content and suction are compared with measured data. Model performance is evaluated by computing traditional goodness of fit indices such as Nash Sutcliffe and percent bias.

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