



Evaluating the use of measured and/or open access data in watershed modeling through an integrated modeling procedure

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ABSTRACT

Hydrological models are considered useful tools in both understanding and investigating the hydrological processes occurring on catchment-level. In order to develop hydrological models, various types of data are required, which, in many cases, are not available due to nonexistence of reliable measurements. To overcome measured data deficiency, open access data are often used. However, this can lead to faults in model development and, therefore, to inaccurate model results. In the study, the use of measured and/or open access data in watershed modeling is investigated and evaluated by developing three distinguished hydrological models for the Upper Anthemountas basin. To strengthen the whole procedure the hydrological models are coupled with a calibrated groundwater flow model, thus forming three separate integrated model systems. A key element of the procedure followed is the comparison between the new groundwater models and the calibrated one, leading to more reliable results regarding the use of measured and/or open access data. This procedure may be proven useful in researchers who desire to evaluate the use of various types of data, since it actually measures their influence through an integrated modeling procedure.

Keywords: Watershed modeling; Groundwater modeling; Surface water-groundwater interactions; Open access and measured data; Upper Anthemountas basin

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