

Operationalizing a data assimilating groundwater flow model in the Heihe river catchment, China

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Within the scope of an international multi-year project (see solicited presentation EGU2018-1899), a real-time groundwater model has been operationalized. It is updated monthly with observed data as they become available. The role of the real-time model in this context is to provide the best possible initial conditions as well as realistic estimates of model uncertainty for a modeling tool optimizing future surface water and groundwater management. The present work gives an overview over (1) building of an interface between a Modflow model of Heihe mid-reach basin and a data assimilation code, (2) simple synthetic experiments with the coupled codes, (3) the complications encountered when switching to real observations, including bias correction and optimization of data assimilation parameters (4) the task of explaining the added value of a real-time model to potential users, and (5) the operational implementation on a server in China including the interfacing with the local data base. Our focus is not on introducing new data assimilation methods but on sharing and discussing our experience made during the operationalization of a groundwater flow model which periodically assimilates new data with a standard method.