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# Hydrologic simulation considering vadose depth variation in Huaibei Plain

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Plain area has experiences a great impact by climate change and anthropogenic activity in regional hydrologic cycle and water resources distribution. Vadose zone depth variation induced moisture storage capacity change is probably considered to alter the dynamic mechanism in surface-soil-groundwater system. The primary motivation for the approach presented here was to simulate and investigate the impact of vadose zone depth variation on surface runoff as well as groundwater recharge and discharge by using the physically-based Distributed Hydrologic Soil Vegetation Model (DHSVM) in conjunction with the field measurement program during the period from January 2002 to December 2010 in Yanglou Basin, Huaibei Plain.

The results indicate the improved DHSVM considering variable vadose depth can better reproduce the spatio-temporal pattern of surface flow, interflow and subsurface flow. Then a quantified impact assessment of different water sources on streamflow in the area of study is described and discussed.