



Upper Mesta river basin runoff modeling

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The Mesta River basin is situated in the South West part of the Bulgarian territory. The river flows from North to South through Bulgarian and Greek territory up to the Aegean Sea. It is relatively well isolated from the northern continental climate influence by the surrounding high mountains. The Mesta River is relatively short and the steep slopes simulate a short time of concentration. The average elevation of the Bulgarian part of the river is 1375 m asl. The snow cover is not stable, the melting processes is going more than once during the winter - when Mediterranean cyclones are passing the region. The HBV model was chosen for the upper Mesta River basin runoff modelling (cross-section Momina kula). The Norwegian version of the model, developed in 2000 is used in this work. The HBV model can be classified as a semi-distributed conceptual model. The main input variables in the model are temperature, precipitation and potential evapotranspiration. The runoff dynamics for the upper part of Mesta river basin (cross-section Momina kula) is generally simulated quite well, with a slight tendency of underestimation of some flood peaks. The results indicate that the model performance is good enough for runoff forecasting.