



Complexity of a flexible topography driven conceptual hydrological model

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Defining a measure of complexity for a hydrological model is required for selection of a model structure among the structures an expert designs. Flex-Topo conceptual modelling approach enables us to design different model structures. We define complexity of a model as a measure in the model output space which can be used for selecting optimal model by minimizing empirical risk of models indicating lowest complex model. We applied this approach on different model structures which we designed a Flex-Topo model for a catchment in Iran. These model structures are based on landscape units including plateau, hillslope and wetland with separate conceptualisation of water balance and also constitutive equations. The complexity based model selection provides us a model structure which is more robust in prediction of future data in comparison to the other structures.