

Evaluation of reservoir operation flexibility under variable hydrological conditions with user defined rules

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Abstract The aim is to operate Yuvacık Reservoir without any flood and drought risk for long-term water supply, to raise the reservoir elevation as high as possible before the inflow recession period starts, which is generally observed in early May. User-defined operating rules are determined, taking hydrological conditions (snow potential, inflow, season and current level) into consideration to construct the simulation model with five years of daily data in which a drought and a wet year are included. In this study, a robust simulation model is analysed for 2001–2005 to investigate the reservoir operation flexibility. In conclusion, the extended period results show that the simulation model is sensitive to the hydrological changes and is applicable for real time operation of the reservoir.

Key words HEC-ResSim; long term; reservoir simulation model; variable hydrological conditions