

Simulation of Surface Runoff in Mahabad Dam Basin, Iran

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Abstract : A major part of the drinking water in North West of Iran is supplied from Mahabad reservoir 80 km northwest of Mahabad. This reservoir collects water from 750 km-catchment which is undergoing accelerated changes due to deforestation and urbanization. The main objective of this study is to develop a catchment modeling platform which translates ongoing land-use changes, soil data, precipitation and evaporation into surface runoff of the river discharging into the reservoir: Soil and Water Assessment Tool, SWAT, model along with hydro -meteorological records of 1997-2011. A variety of statistical indices were used to evaluate the simulation results for both calibration and validation periods; among them, the robust Nash-Sutcliffe coefficients were found to be 0.52 and 0.62 in the calibration and validation periods, respectively. This project has developed a reliable modeling platform with the benchmark land physical conditions of the Mahabad dam basin.

Keywords : simulation, surface runoff, Mahabad dam, SWAT model

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