

Long-Term Runoff Simulation Considering Dam Operation in Han River Basin

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The conventional hydrological component analysis was concentrated on the macroscopic water budget analysis, but these days the component analysis considering precipitation, evapotranspiration, soil water content, and ground water has focused on minimizing each component of uncertainty in water cycle. Also the importance on analysis of water component according to artificial effects such as agricultural water use, large scale storage facilities and urbanization is gradually increased. Therefore, the long-term runoff model SWAT-K(KOREA) which improves reservoir operation module of SWAT was developed for this purpose and applied to the Paldang-dam watershed of the Han River basin in Korea which covers about 20, 800 km². The simulated runoff showed good agreement with the observed runoff by using newly improved dam operation module. Additionally, the impact of dam in assessment of natural runoff was investigated through the simulation of the runoff assuming no dams were within the watershed.