

## **Hydrologic System for Simulating Reference Flows in the Geum River Basin' s TMDL Practices**

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**Abstract.** In South Korea TMDLs are now calculated in the administration boundaries (similar to counties in the U.S.) along the main rivers by multiplying a calculated reference flow times the water quality concentration of different parameters. To model this practice, a hydrologic system was implemented which simulates daily stream flows at the 36 main gauging stations along the streams within the Geum River basin. This computer system uses the DAWAST runoff model to calculate return flows from paddy fields, domestic and industrial uses, and was verified using two years of observed data measured every eight days. This computer system has several modules for estimating daily demands from: paddies, domestic water uses, and industrial water uses. The computer system also simulates daily water storage in reservoirs, and calculates reference flows and total loads. A presentation of the computer system and it application to the Geum River will be presented.