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Tools for Integrated Water Resources Management in Korea

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This paper pertains to the technical framework to develop decision support tools for integrated river basin water management in Korea.

During the 1st stage of the research (2001 - 2004), a data base centered modeling system for long term and short term river basin reservoirs system operational planning had developed for the Geum river basin, Korea; a basinwide continuous rainfall-runoff analysis model, real time water information sharing system, reservoirs system simulation and optimization models, and river and reservoir water quality simulation models.

Runoff data at key stations were analyzed and classified by hydrological and water use components. Short term water demand and supply forecasting system that provide spatial water budget information in the basin was developed based on the classified components.

Simulation and optimization models for long term and short term reservoirs system operation were developed considering basin water budget and water quality information. Steady and unsteady state numeral simulation models were developed for river water quality prediction and forecasting in connection with basin reservoirs system operational planning.

During the 2nd stage of the research (2005 - 2007), the developed toolkits and data are to be validated and incorporated into the web/GIS based decision support system for the holistic and integrated river basin water management. In the conference, needs, objectives, the formulated framework of the developing decision support tools, and the on-going implementation scheme are presented.