

WATER ALLOCATION USING VALUATION FUNCTIONS OF WATER QUANTITY AND QUALITY

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ABSTRACT

This job presents a methodology for allocating water in a catchment using a rainfall-runoff tanks model and water quality model QUAL2K. The rainfall-runoff model is calibrated and allows for anywhere in the watershed to calculate the water supply by hydrological relationships. The water quality model is calibrated to simulate existing conditions and future water use in rivers receptor of waste water. Valuation functions of quantity and regulation are built, as well as a function of water quality. Introducing a multicriteria approach to define a joint function of water valuation. This methodology is applied in the Otún River Basin in Colombia. Several scenarios are simulated and the deterioration or improvement is estimated in the water valuation. This methodology can be useful for environmental authorities.

PALAVRA-CHAVE: water allocation, water supply, Valuation functions, spatial variability, temporal variability