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GIS-AIDED INLAND WATERSHED MODELING, SHIYANG RIVER BASIN, CHINA

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ABSTRACT
Geographic Information Systems (GIS) have been recognized as a powerful means to integrate and analyze data from various sources in the context of comprehensive watershed management. Hydrologic modeling plays a crucial role, and there is much to gain in incorporating these modeling capabilities in GIS. Interfacing between these models and GIS may be a very efficient way of overcoming the difficulties and getting very good results in terms of engineering practice. In this paper, GIS-aided watershed modeling is applied in a watershed in northwest China. The GIS is interfaced with a watershed modeling program, HSPF, to facilitate data storage, management and display; derivation of model input parameters; and effective presentation of results. Through interfacing programs and other GIS programs, a database is queried to derive model input parameters, and to visually present results in maps. We simulated a rainfall process in the Shiyang River Basin in northwest China. Results for current conditions and practices show that HSPF can be used successfully in similar inland watersheds.

Reference: Chen, H. Z. Shen and Z. Yang; Gis-Aided Inland Watershed Modeling, Shiyang River Basin, China, Journal of Environmental Hydrology, Vol. 12, Paper 3, February 2004.

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