IWRM2018-23
8th International Water Resources Management Conference of ICWRS

The Use of An Integrated Variable Fuzzy Sets in Water Resources Management

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Based on the evaluation of the present situation of water resources and the development of water conservancy projects and social economy, optimal allocation of regional water resources presents an increasing need in the water resources management. Meanwhile it is also the most effective way to promote the harmonic relationship between human and water. In view of the own limitations of the traditional evaluations of which always choose a single index model using in optimal allocation of regional water resources, on the basis of the theory of variable fuzzy sets(VFS) and system dynamics(SD),an integrated variable fuzzy sets model(IVFS) is proposed to address dynamically complex problems in regional water resources management in this paper. The model is applied to evaluate the level of the optimal allocation of regional water resources of Zoucheng in China. Results show that the level of allocation schemes of water resources ranging from 2.5 to 3.5, generally showing a trend of lower level. To achieve optimal regional management of water resources, this model conveys a certain degree of accessing water resources management, which prominently improve the authentic assessment of water resources management by using the eigenvector of level H.