

APPLICATIONS OF SOFT COMPUTING TECHNIQUES IN WATER RESOURCES ENGINEERING

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Abstract

Water is precious for life on earth. There is ever increasing demand for the supply of fresh water to the various sectors of human needs. This has given rise to the problem of optimal management of water resources potential on all parts of the world, more so, in a developing country like India, where the distribution of the water resource is highly uneven both in space and time. For efficient management of water resources, prediction of various hydrological event such as rainfall-runoff correlation, forecasting of inflow into a reservoir, forecasting of rainfall, forecasting of evaporation, forecasting of maximum flood and optimum reservoir operation policy etc are required. Soft computing techniques are very effective for forecast of complex system in water resources engineering. This study presents the application of soft computing techniques in the field of water resources engineering for development and efficient management of water resources. Soft computing techniques include Artificial Neural Networks (ANNs), Fuzzy Logic (FL), Genetic Algorithms (GAs), Software and combination of these techniques called hybrid techniques.

Keywords : Soft computing, water resources engineering.