Application of statistical parameters for flow analysis of Hirakud reservoir Odisha India

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May 5, 2020

Abstract

The problem related to the water Resource Engineering are mostly non-linear in nature. It is becoming a difficult task for large scale nonlinear optimization problems to obtain the optimal solutions. Since various conflicting demands such as irrigation, generation of power, industrial and municipal water supply etc. should be satisfied with water available in reservoir, the optimal operating policy for multipurpose reservoir is a necessity. Further, the growth in population, urbanization, deforestation and industrialization has increased the demand of water day by day. In recent times, it is also noted that the global warming became a threat that affects availability of water resources both spatially and temporally in several parts of the world. Conventional approaches are found to be insufficient to deal with this problem. To contract with objective function information and elude difficulties related to determine derivate or other auxiliary information various statistical test such Analysis of Variance, t-Test, F-test, Z-test, Curve Fitting, wavelet are used along with the evolutionary algorithm for reservoir optimization

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Final manuscript ER.doc available at https://authorea.com/users/295266/articles/423910-application-of-statistical-parameters-for-flow-analysis-of-hirakud-reservoir-odisha-india