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GROUNDWATER MODELLING USING FDM IN CHAKSU REGION, JAIPUR, INDIA

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ABSTRACT

Groundwater is the major source of freshwater being utilized by domestic, industrial and agriculture sectors worldwide. The present developmental activities have put pressure on the groundwater and the results are in the form of depleting groundwater level and deteriorating quality. Quantitative assessments of groundwater resources and their vulnerability to adverse natural and anthropogenic impacts require conceptualization, quantification and modelling of often vast, complex and heterogeneous groundwater systems with inclusion of various physical, geochemical and biological processes. Therefore, there is a growing need for practical, cost-effective methods of groundwater systems characterization that could be applied in the real-world management of groundwater resources. Groundwater modeling can be defined as the quantification and simulation of the natural movement of groundwater through any porous or fissured media. MODFLOW has a modular structure that allows it to be modified to adapt the code for special applications. It simulates steady and transient flow in an irregularly shaped flow system in which aquifer layers can be confined, unconfined, or a combination of confined and unconfined.

KEYWORDS: Groundwater, Groundwater Modelling, MODFLOW, Simulation