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GROUND WATER MODELING OF NELLORE COASTAL ZONE

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ABSTRACT

Groundwater model is regarded as the best tool to conceptualise the hydro geological situation in the groundwater basin and to predict the potential environment and socioeconomic impacts of the groundwater abstractions. Rise in sea level due to the climate change accelerates the saltwater intrusion into the aquifer and maintain the same depth to water level consequently reducing the quality of water. This phenomenon is observed in the sea coast of Nellore district which situated between the 14^0 10' to $14^0$50' of North latitude and 80^0 00' to $78^0$10' of East longitude covering an area of 1530 km^2 from the ground water flow model it is observed that the annual recharge of the study area is 435.04 MCM and river leakage is 7.22 MCM. From the total input, 12% (i.e, 52.20MCM) is gone through evaporation loses from surface and ground water bodies and 50% of water is extracted from ground in the form of pumping (i.e,194.85 MCM) and the remaining 28% (i.e, 131.18 MCM) is due to the river leakage and saltwater intrusion in the study area.

KEYWORDS: Groundwater Model, Visual MODFLOW, Pumping