

Hydrogeochemical Studies of Solapur City, Maharashtra State, India

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Solapur City (17 40'N, 75 50' E) is situated 400 Kilometres Northwest of Mumbai on Central Railway in Maharashtra State, India. The area lies under the arid to semi-arid tropical climatic conditions and receives an annual rainfall of about 500 millimetres. The area is covered by the Deccan basalts of the continental tholeiitic province of India. Two distinct lava flows are recognised alongwith flow units.

Groundwater studies have been carried out with the help of 100 representative borewells distributed through out the City. Chemical quality of these water samples were determined for Calcium, Magnesium, Sodium, Potassium, Carbonates, Bicarbonates, Chlorides, Sulphates, Nitrates and parameters like Hydrogen ion concentration, Electrical Conductivity, Total Hardness, Total dissolved solids alongwith Bacterial count.

With help of statistical analysis the Chemical data was further treated to know the variation, distribution pattern and interrelationship amongst them. These studies reveal that in general quality of groundwater is good except few samples where man made activities interfere. It is found that there is a significant correlation between Electrical Conductivity, Total Hardness, and Total dissolved solids and also between Calcium, Magnesium and Total Hardness. The results are projected in the paper with help of variety of thematic maps.