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## Hydrogeochemistry of groundwater in a part of the alluvial terrain of Central India

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Hydrogeochemistry of alluvial terrain of Central India has been interpreted on the basis of 44 groundwater samples collected from dug wells, each during pre and post monsoon periods of 2013. The samples were analyzed for their physico-chemical parameters i.e. PH, EC, T.D.S., Ca, Mg, Na, K, HCO<sub>3</sub>, Cl, SO<sub>4</sub> and NO<sub>3</sub> using standard methods. The cation concentrations show a trend of Na > Ca > Mg > K while anions are in order of HCO<sub>3</sub> > Cl > SO<sub>4</sub> > NO<sub>3</sub>. The plot of chemical data on Piper's trilinear diagram reveals that majority of the groundwater samples fall in the fields of alkalies exceeding alkaline earths, weak acids exceeding strong acids. The cation and anion triangular fields of the diagram show sodium potassium type of groundwater is dominant in cationic category and bicarbonate type (HCO<sub>3</sub>) in the anionic category. The analytical data reveals that there are six hydrochemical facies present in the groundwater of the study area i.e. Ca, Mg – HCO<sub>3</sub>, Na-Cl, Na-HCO<sub>3</sub>, Ca – Cl, Na – Ca – HCO<sub>3</sub>, (mixed type) and Ca – Mg – Cl (mixed type). Overall evaluation of groundwater during the period of study shows that the groundwater in the area is mostly alkaline in nature. The higher concentration of chloride is also observed at some places. The quality of groundwater is also degraded at few places.

**key words:** hydrogeochemistry, groundwater, alluvial terrain, Central India.

