

Patterns in Groundwater Chemistry Resulting from Weathering: A Case Study from Kanigiri, Podili, Areas of Prakasam District, Andhra Pradesh

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Abstract

In the present work hydrochemical patterns in the Kanigiri, Darsi and Podili areas of Prakasam district were studied. Groundwater sampling over a period of five years, during both pre-monsoon and post-monsoon were carried out. Acute hot conditions prevail in the study area during summer and the said areas are covered by plutonic rocks viz., granites. These rock types are associated with various calcium, magnesium bearing mineral and elements like chloride and fluoride. Intense weathering in these areas, releases fluoride in the groundwater, which is responsible for fluorosis in Kanigiri (Kanigiri pluton), Podili (Uppalapadu pluton) and surroundings. The rate of weathering, residence time of groundwater, solubility and release of fluoride in to groundwater are some of the factors responsible for the quality of water in the study area.

Keywords: Weathering, groundwater quality, hydrochemical patterns