

DEVELOPMENT OF GEOCHEMICAL BASELINES MAPPING IN INDIA

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International Union of Geological Sciences Working Group on Global Geochemical Baselines has identified NGRI as the Nodal Agency to carry out environmental geochemical mapping in India. The aim of the study is to create a Global Geochemical Database on the basis of the Global Reference Network (GRN) of the cells in India. About 121 cells of 160x160 kms are to be studied in India.

Natural geochemical background is highly variable and the natural levels of some toxic or radiogenic elements could be much higher than those caused by anthropogenic sources of pollution. Hyderabad is one such example where very high concentration of radiogenic elements is found in granite rocks.

NGRI has started the geochemical baselines work in Southern India. Sampling work was carried out as per the international norms defined in the report of IGCP 360 and modified by FOREGS Geochemical Mapping Field Manual. Composite samples from 5-10 sampling points of stream water, stream sediments and soil have been collected from three GRN grid cells i.e. 12-13.5 degrees N, 76-80.49 degrees E. It was observed that most of the water streams in Tamil Nadu were dry and therefore, only soil, dry sediments and floodplain sediments were collected from two points of one grid cell. Chemical analysis of water and sediment samples is being carried out by ICP-MS and XRF spectrometer. Details of the environmental geochemical baseline studies being carried out in India are presented in this paper.