GEOCHEMICAL MAPPING IN COLOMBIA: PRELIMINARY GEOCHEMICAL MAPPING IN COLOMBIA: PRELIMINARY RESULTS OF A PILOT CELL

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In 1998 INGEOMINAS initiated the project Compilation and Establishment of Geochemical Information of Colombia aimed at obtaining geochemical data, to establish geochemical baselines and to provide multi-purpose information, useful for mineral exploration, as well as for environmental studies. Methodologies and standards of the International Geological Correlation Program IGCP - Projects 259/360, were adopted for this project. Data analysis and mapping were carried out using SPSS, GEOEAS and Arc-Info software.A 160 x 160 km. cell in the central part of the country was studied. Elements as As, Mo, Cd, Ni, Sb, V and Zn, presented high values in some locations, producing skewed distributions. On the other hand elements such as Al, Si, K, Mg, Br, Ca and Na are depleted in various sampling media. Preliminary Data Analysis allowed to distinguish main element associations. Maps revealed an anomalous zone SW - NE orientated (high trace element concentration in soils, sediments, waters), which correlated with an Inferior Cretaceous geologic Unit, limited to the east by a faulted zone. Elements such as Cu, Ni and Zn, in waters, seem to be affected by the antropogenic influence of the City of Bogota. Enrichment factors confirmed the anomalies identified for each analyzed element. Data analysis showed that geochemical mapping in Colombia is a useful tool to characterize and differentiate geochemical zones.