

Geochemical mapping of the State of Rio de Janeiro, Brazil.

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Geochemical reconnaissance of the State of Rio de Janeiro has been carried out with samples from flood plains and streams to determine the abundance and dispersion of elements, to determine: (i) the natural contamination and contamination caused by human activity; (ii) area with potential for mineral exploration providing, a quick and practical method to evaluate the global view of the geochemistry of the State.

To obtain a good representation of the geochemistry at the regional level, a total of 14 sediment samples from flood plains were collected from the large basins (1000 to 10 000 km²), in addition to 184 stream sediment samples. A total of 198 water samples was collected from smaller drainage. All these samples underwent multi-element analysis. Cations in the water samples were analysed by ICP-AES and the anions by chromatography. Stream sediment samples were analysed by ICP-AES, atomic absorption and XR-F.

A multi-element data base was built from this geochemical data as well as geochemical maps by chemical element. These results were made available to the general public with the aim of development other studies, whether these be geological or in other disciplines such as agriculture, animal husbandry, soil utilization, public health and basic sanitation.