

Regional Report from Brazil: Geochemical Surveys and Atlases in Brazil - CPRM (Geological Survey of Brazil) by João Larizzatti

In the last two years CPRM – Geological Survey of Brazil has been conducting regional geochemical mapping surveys from Santa Catarina (South) to Roraima States (North); and from Rondônia (West) to Pernambuco (East). It is also conducting marine sediment sampling in the northeast shore of the country. The focus is on regional geochemical mapping, geochemical exploration and environmental geochemistry.

Geochemical atlases are composed from maps and databases providing regional coverages for a given sampling media (soil, stream sediment, heavy mineral concentrate, surficial water). They often cover a large region or 1:100,000 scale map sheets.

These data are available free of charge or at a low cost. Please visit www.cprm.gov.br.

Mineral Exploration and Geological/Geochemical Mapping

During 2013 up until October 2014 4,130 soil samples and 20,523 stream sediment samples were collected in continental Brazil. During the same period of time, marine sediment samples were collected in the continental shelf. These samples were analyzed by multielement methods (XRF, ICPOES and ICPMS) using various digestion methods. CPRM also collected 19,742 heavy minerals concentrate samples; these samples were analyzed semi-quantitatively for mineralogical composition. For more details, please see Figures 1, 2 and 3.

The Brazilian government, through CPRM and its Geology and Mineral Resources Directory invested R\$ 10,657,000.00 (about US\$ 4,262,800) in sampling and R\$ 2,220,500.00 (about US\$ 888,200) in analysis for the country.

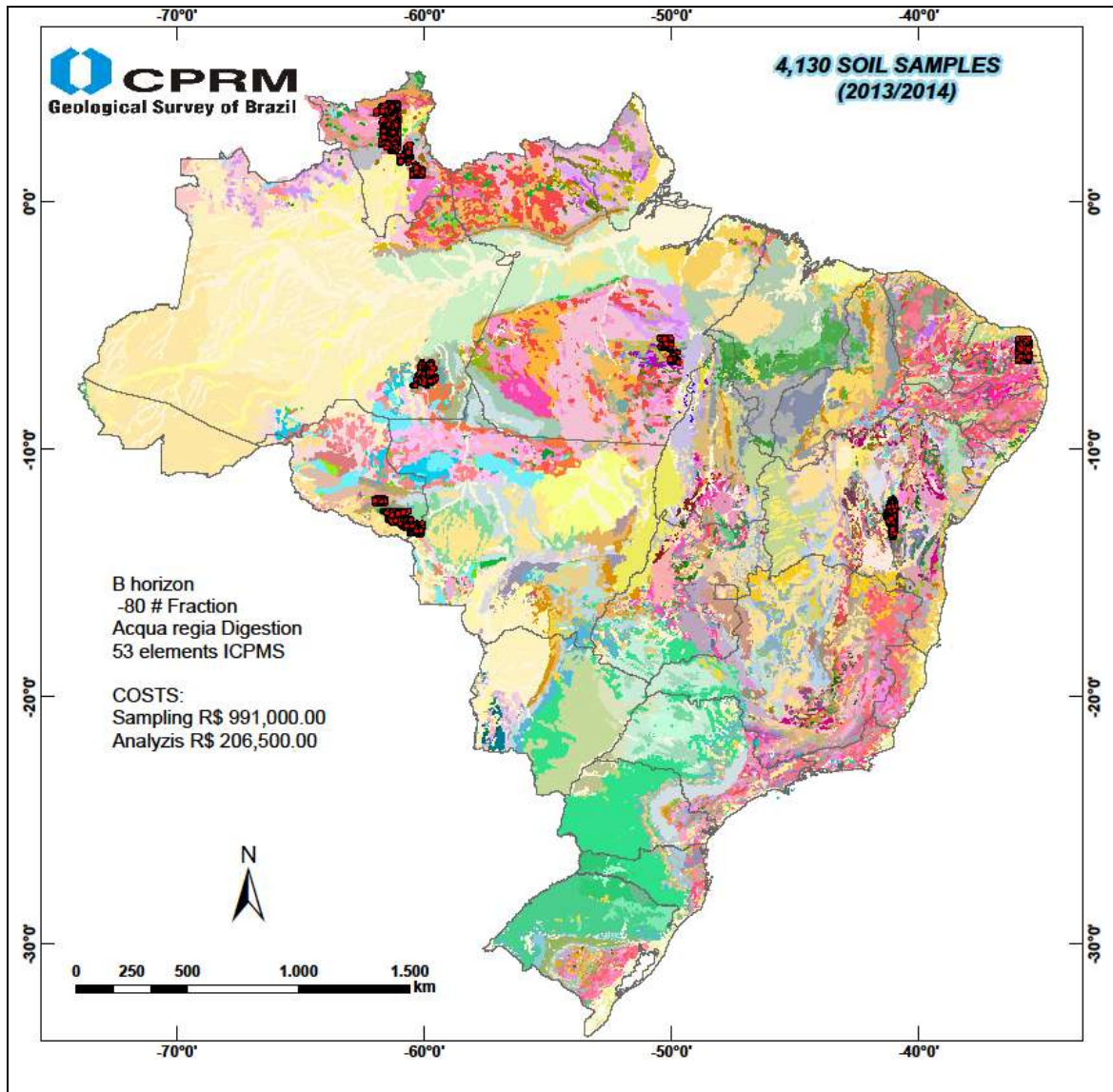


Figure 1 – Soil samples collected between 2013 and 2014 in Brazil

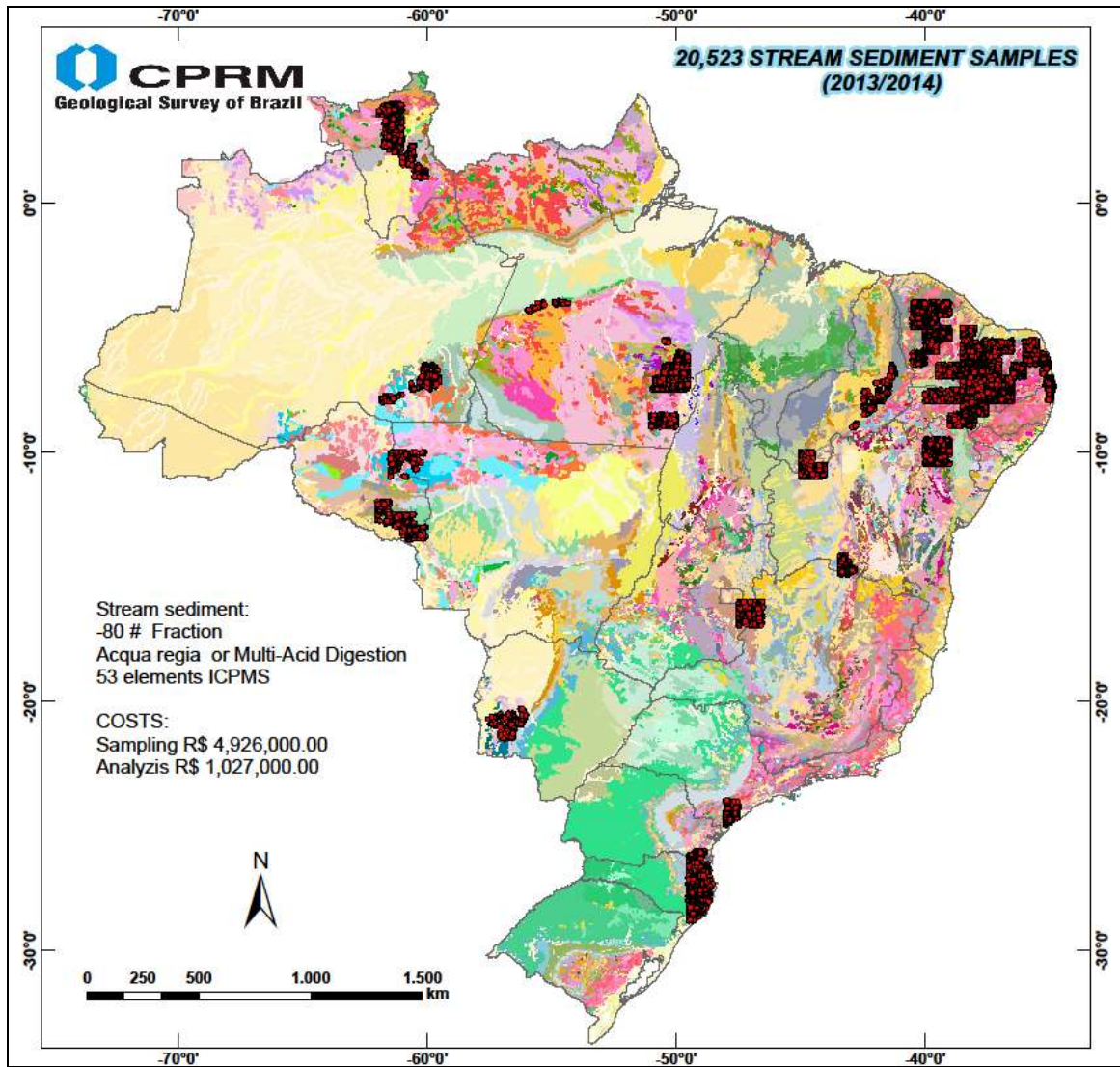


Figure 2 – Stream sediment samples collected between 2013 and 2014.

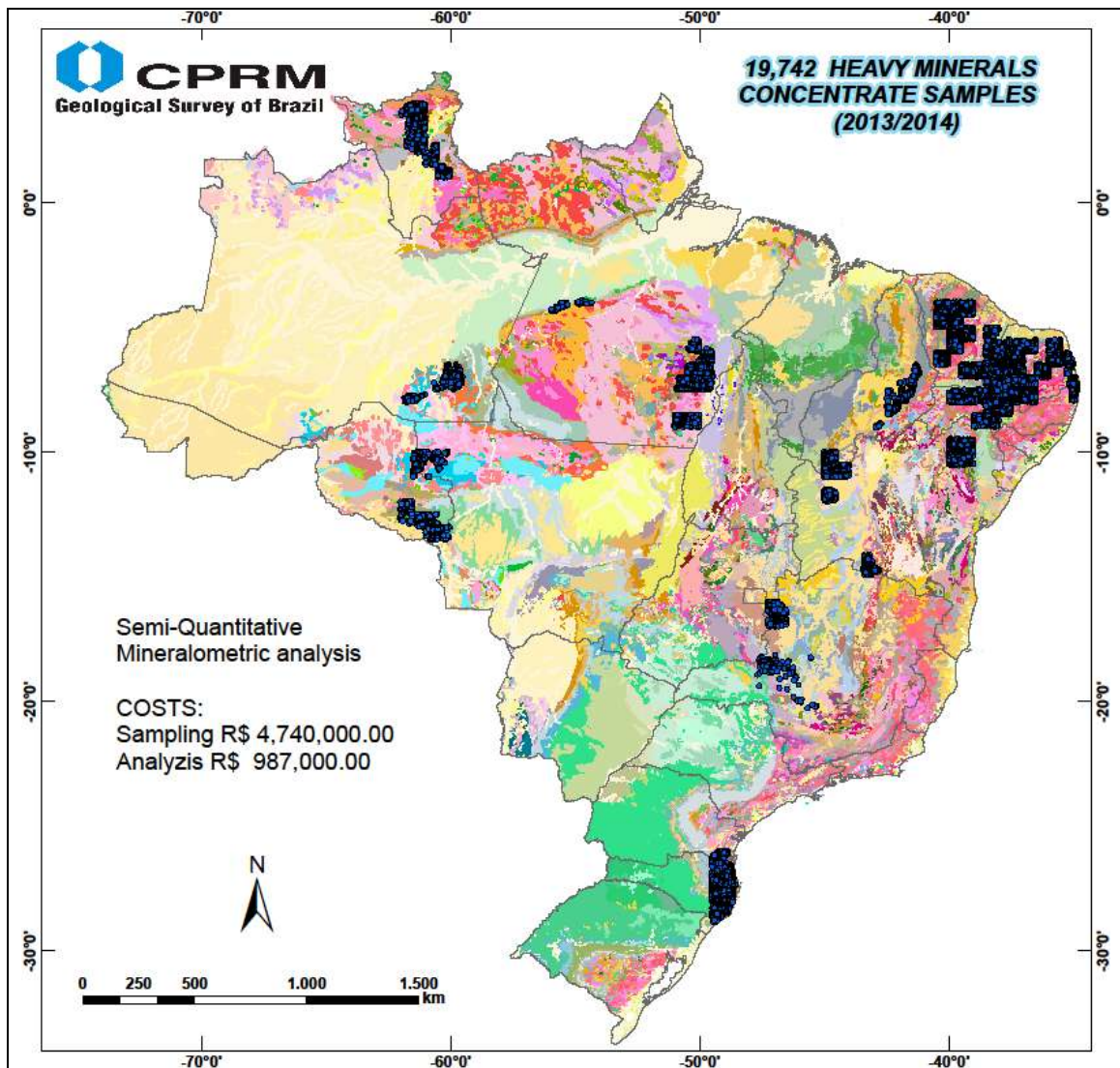


Figure 3 – Heavy minerals concentrate samples collected between 2013 and 2014.

Marine Geochemistry

CPRM is investigating the mineral potential of the Brazilian continental shelf. Geological, geophysical and geochemical data are being collected and integrated. The Brazilian Navy and some Brazilian universities are working together in this project. These geological, economic and environmental data will be used by decision makers in order to develop special policies for the safe use of marine resources. See Figure 4 for details.

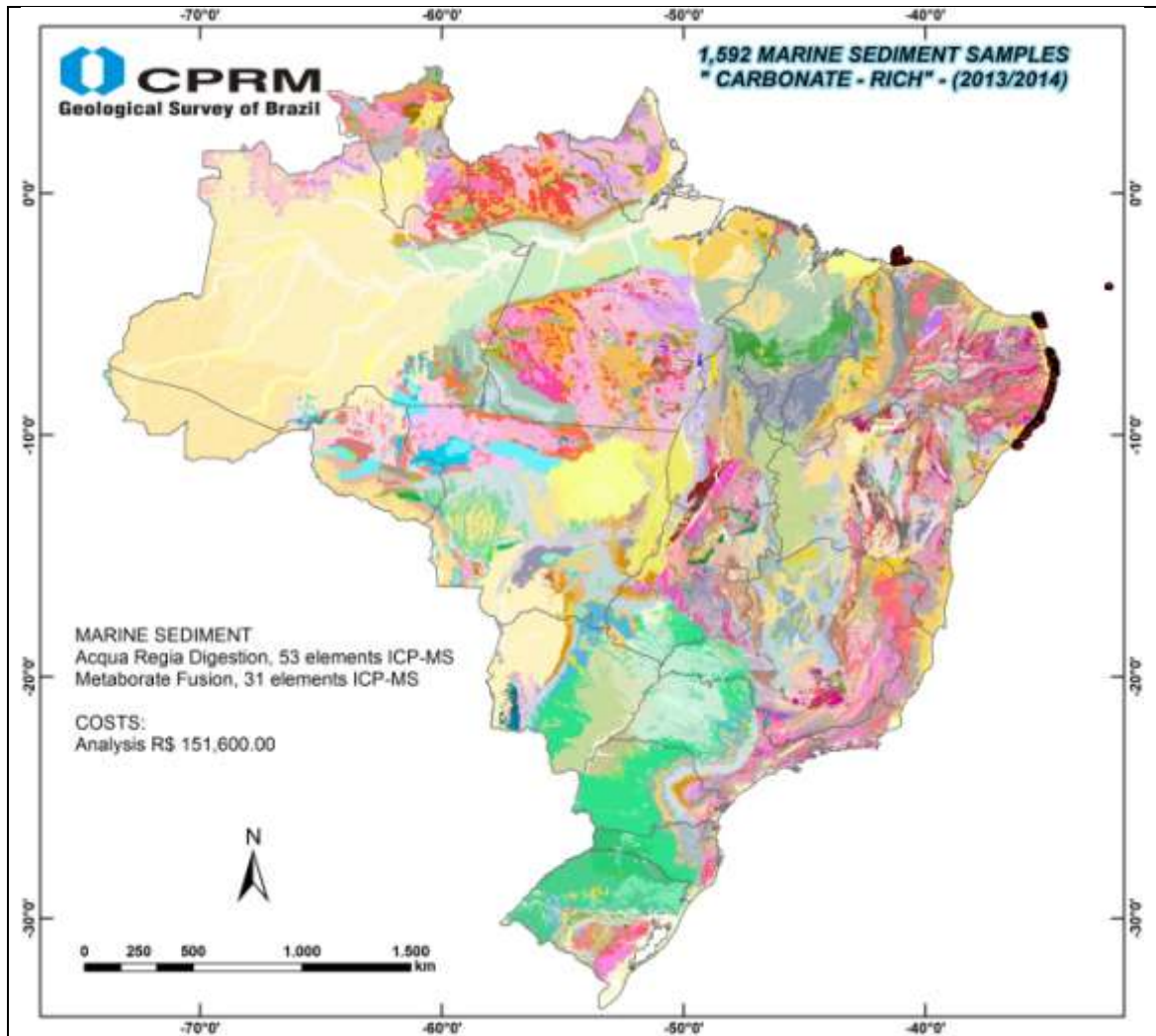


Figure 4 – Marine sediments collected between 2013 and 2014.