



Seismographic Network of the Carajás Mineral Province: Data generation for the study of the crust and mantle in the region

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Abstract

The Carajás Mineral Province (CMP) region lacks detailed geophysical studies on a regional scale, especially due to the difficult logistical conditions in northern Brazil, and the lack of investment in this type of study. Seismological studies with techniques that allow the generation of images at crustal and mantle depths depend on a denser coverage of seismographic stations. The installation of a network of 30 stations in Carajás and adjacent areas has enabled the generation of data for seismological studies of the crust and mantle in the region, as well as its seismicity. The network is supported by Vale S.A. within the scope of the project "GEODYNAMICS (4D) OF THE MINERAL PROVINCE OF CARAJÁS", in partnership with the Brazilian Geological Survey (SGB/CPRM), the Agency for the Innovation Development of the Brazilian Mineral Sector (ADIMB), and several research institutions and universities. The project has as general objective to study the seismic structure of the crust and the upper mantle under the CMP and adjacent areas, using several seismological methodologies. It is expected to reach levels of resolution sufficient to define the limits of the Paleoproterozoic blocks that represent the tectonic domains of the CMP and adjacent areas, as well as indicate possible favorable regions for the occurrence of mineralizations. The project aims to contribute to the understanding of the tectonic compartmentalization and evolution of the Amazonian Craton.