

THE PRECAMBRIAN EVOLUTION OF THE AMAZONIAN CRATON: ONE OF THE THE LAST UNKNOWN PRECAMBRIAN TERRANES IN THE WORLD

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The geological knowledge of the Amazonian craton improved significantly in the last ten years by: (1) The development of systematic geological mapping in key areas, employing remote sensing and modern field and structural geology techniques; (2) the improvement of geochronological data by a large increase of U-Pb and Pb-Pb zircon ages; (3) the introduction of Nd and Pb isotopic data in the interpretation of rock origin; (4) the more systematic petrogenetic and geochemical studies of the major magmatic suites of the craton; (5) the prospection and metallogenic research undertaken in Carajas, Tapajos, Pitinga, Rondonia and northeastern Guyana shield, demonstrating the existence of large ore deposits in the craton. As a consequence, the tectonic models and evolution of the Amazonian craton, as well as its proposed tectonic provinces, are strongly debated. Large Archean domains are only preserved in the Carajas province, in the southeastern domain of the craton, and possibly in the Imataca Complex. More restricted Archean domains are found in the Amapa region. The major part of the craton is formed by 2.2 to 0.9 Ga old, Proterozoic rocks, and the youngest sequences are exposed in its southwestern part. The absence of the Brasiliano-Panafrican imprint in the Amazonian craton is a fundamental tectonic distinction between it and other Precambrian provinces of Brazil. The tectonic evolution and magmatism of the Paleoproterozoic northern terranes of the Guyana shield look similar to that of West-African craton, while Mesoproterozoic terranes are correlated with those of Laurentia-Baltica.