GRANITIC MAGMATISM AND ITS IMPLICATION TO EVOLUTION OF ARACUAÍ PROTEROZOIC OROGENIC BELT, NE BRAZIL

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Mapping of the SB.24-V-B and SB.24-V-D sections of the international grid reference are included in the Mantiqueira Structural Province, in the Neoproterozoic Aracuaí Fold Belt terranes (Brazil). The following pre-Neoproterozoic units were recognized: i) the Caraíba-Paramirim Complex, an Archean basement of medium to high metamorphic grade, strongly affected by Transamazonic and Brazilian tectonic events; ii) the Paraíba do Sul Complex, a Transamazonian Mobile Belt, with sediments deposited in the beginning of the Paleoproterozoic and metamorphosed about 2,200 M.y. ago, during an important geodynamic event, that gave rise to directional and thrust faulting, followed and thrust faulting, followed by intense transposition towards the west. The deposition of supracrustals rocks related to the Neoproterozoic Brazilian Cycle, typified by Macaúbas Group, took place after a Mesoproterozoic period of tectonic stability. The main phase of the Brazilian low-medium-grade metamorphism occured about 760-700 M.y. ago, coeval with the emplacement of sin to late-tectonic granitoids. These rocks comprises peraluminous cordierite-bearing granites and/or biotite granites. Post-tectonic granitoids, emplaced at ca. 700 to 650 M.y., related to reactivated zones, comprises epidote-bearing granites and charnockites. The telescoping of granitoid associations within a single plutonic body and their geochemical and isotopic signatures provide evidence for an anatetic origin from various protoliths, induced by the ascent of mantle-derived magmas. Despite showing relatively high values, the $(^{87}Sr/^{86}Sr)i$ ratio of the granitoids, as well as their low eNd values ratios cannot be explained by simple recycling of Transamazonian-age (or even older) crustal material without considerable addition of magmas derived from the upper mantle.