

GRANITES AND RELATED TIN AND GOLD DEPOSITS IN BRAZIL

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World class tin deposits occur in the Amazonian craton, in the Rondonia and Pitinga provinces. The Goiás and Itu provinces, in central and southeastern Brazil, respectively, are also important. In the Amazonian craton and Goiás province, tin-mineralized granites are generally within-plate, A-type, rapakivi series granites, intruded between 1.88 and 1.0 Ga. However, in the Goiás province, tin deposits hosted by 2.2 to 2.0 Ga old, syn- to post-kinematic, peraluminous granites have been recently described. The 0.55 Ga old Itu province granites are post-collisional and related to the Brasiliano event. Primary tin deposits in Brazil are associated with greisen, quartz-veins, pegmatites, breccias, episyenites and albite granites. The tin- and cryolite-mineralized, peralkaline albite granite of the Pitinga mine is remarkable. Ta, Nb, Zr, Y, and In, are locally associated with Sn. The largest gold provinces are also found in the Amazonian craton. There are increasing evidence of gold deposits associated to Archean granitoids in the Carajás province. Important primary and secondary deposits are associated with Paleoproterozoic granitoids and volcanic rocks of the Tapajós-Juruena and Amapá provinces. There are many small gold deposits associated with Brasiliano age granitoids in central, southern and northeastern Brazil. Generally, the gold-mineralized granitoids are described as calc-alkaline, shoshonitic or, exceptionally, peraluminous, but in many cases geochemical characterization is poor.