

Tectonic Map of the Central Ribeira Orogenic Belt

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After two decades of research, combining detailed geological mapping, structural analysis, petrology, geochemistry and geochronology we present the 1:250.000 scale Tectonic Map of the Central Segment of the Ribeira Belt.

The crustal structure of the belt is defined by two major tectono-stratigraphic terranes: a) the Occidental Terrane is interpreted as the reworked margin of the São Francisco Plate and comprises an autochthonous domain, the Andrelândia nappe system, which contains records of the older Brasília belt deformation, and the Juiz de Fora thrust system; b) the Oriental terrane is envisaged as part of the Congo Plate and encompasses the Paraíba do Sul Klippe, the Costeiro and the Cabo Frio domains. The cordilleran magmatic arc of the Brasiliano Orogeny is located at the Oriental Terrane. The suture zone between these two terranes is a conspicuous NW-dipping shear zone that can be traced continuously along at least 200 km. This structure, called the Central Tectonic Boundary was developed during the early stages and reactivated during the late stages of the Brasiliano orogeny. Three major lithological associations were recognised and mapped in the central Ribeira belt: a) the reworked Paleoproterozoic/Archaean basement; b) different deformed Paleoproterozoic to Neoproterozoic cover successions; and c) Neoproterozoic granitoid rocks which characterize five distinct tectono-magmatic stages