Crustal Evolution in Southern São Francisco Craton (Brazil).

[1]VALENÇA, J.G., [1]CHERMAN, A.F., [1]COUTO, F.M., [1]PACIULLO, F.V.P. and [1]RIBEIRO, A. [1]UFRJ/DEGEO-FAPERJ-FUJB, Rio de Janeiro, Brazil.

The southernmost end of the São Francisco Craton (SFC), between the Nazareno and Lavras towns (Minas Gerais State) consists of linear segments of the Barbacena Greenstone Belt (BGB), supposedly of Archean age, interspersed corridors of metamorphosed coalesced granitoid plutons, and much smaller discrete bodies of compositionally similar Paleoproterozoic granitoids and diorites. The regional structural trend in the area is given by a pronounced ENE-WSW alignment of these elongate BGB segments and granitoid corridors, which is nearly subparallel to a steeply-dipping penetrative foliation in most of the lithologies. Detailed field and petrographic data, and new U/Pb and Pb/Pb zircon ages (from nearby areas), bring to light the following new relevant features on the history of crustal evolution of the SFC, in special, to part of it related to the development of the so-called Paleoproterozoic Mineiro Belt itself: i) the evidence of a prograde pattern of regional metamorphism reaching lowermost amphibolite facies conditions (ca. 500-520° C and 4.5-5.0 kb) in BGB metakomatiitic volcanic and plutonic lithologies and associated amphibolites. The climax of this metamorphism (M_1) was concurrent with a deformation event (D_{n-1}); ii) the record of an important stage of crustal growth and reworking (2.2 to 2.1 Ga.), following the previous stage, marked by mantle-and probably mantle plus Archean crust-derived mafic (dioritic/gabbroic) to felsic (granitoid) continental arc-magmatism, transcurrent shear zone-producing tectonism (D_n) and upper to middle greenschist retrograde regional metamorphism (M_2).