



Did Upper Cretaceous Intrusions reactivate Pre-Cretaceous structures at the South Atlantic passive continental margin of Brazil?

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“Passive” continental margins especially of the South Atlantic Ocean are perfect locations to quantify exhumation, rock uplift, and surface uplift rates, model the long-term landscape evolution and provide information on the influence of mantle processes on a longer time scale. Furthermore, these passive margin allow to study the influence of large intrusions on the reactivation of Pre-Intrusion structures.

In Southern Brazil, the Poços de Caldas intrusion (83 Ma) took place in Neoproterozoic para-metamorphic rocks of amphibolite facies, which are deformed and metamorphosed during the Central Brazilian Orogeny (630 Ma – 510 Ma). The compressional deformation caused major N-S trending transform faults, and related perpendicular structures. In the Serra da Mantiqueira and Serra do Mar to the East, these N-S trending transform structures are reactivated at about 120 Ma.

Together with the surrounding Precambrian metamorphic rocks the Poços de Caldas Intrusion forms the Poços de Caldas Plateau reaching elevations between 900 m.a.s.l. and 1300 m.a.s.l. The intrusion covers an area of 800 km². The presentation will provide data and discuss the influence of the large intrusion on Pre-Intrusion structures within the surrounding metamorphic basement.