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Satellite image of Google Earth

Program and Abstracts

Brasiliano collage: diversity in time and tectonic elements

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The study of the evolutionary steps of the South-American Platform requires some more daring observations about its origin (Half Laurentian + Half Gondwanan), as well as on the development of its three large structural provinces along Neoproterozoic times. The first diversity in time should be evoked by the observation of the development of the lithospheric fractions separated by the Transbrasiliano Lineament. It is impossible to use the same geologic timescale for both "sides", as it will be demonstrated.

At the eastern lithospheric segment – Gondwanaland – a complex diversity of tectonic elements resulted from the processes related to the Rodinia fission (<900 Ma), from paleogeographic realms up to tectonic elements. Many lithospheric *descendants* of Rodinia were formed, in terms of size and nature of basement (but not only), and thenceforth they played different roles along the tectonic processes. Microplates, microcontinents, tectonostratigraphic terranes of different types and origins were then formed, as well as different types of sedimentary basins (continental and marine) developed and settled among them. The total area of Brasiliano domains is about two millions of square kilometers.

So, due to the participation of many different tectonic actors/elements, we have to leave the preliminary models of Plate Tectonics of the seventies behind. Actually, in all Brasiliano structural provinces we are dealing with complex branching system of orogens, conventional ones (subduction related, collisional, transpressional), as well as with some intracontinental types. Each of these orogenic developments presents variable features to be considered, in terms tectonic patterns.

Naturally, the phases of such developments (plate interactions) cannot be expected to be coeval. Nevertheless, it is possible to organize a very interesting confrontation/comparison of the different tectonostratigraphic charts obtained from developing phases of different fold belts, and some coherence can be observed. Additionally, we should say that the fusion of Gondwana was only finalized in the Lower Ordovician (generally marked by molassic sediments and/or granitic plutonism).

The presence of tectonostratigraphic terranes is a characteristic of most Brasiliano Structural Provinces, some of them with important participation in the final shape and framework of the provinces as a whole. A scheme of the types of tectonostratigraphic terranes of all provinces will be presented and discussed. In all provinces, the study of the basement of these terranes shows many evidences of the cogeneticity with the basement of the surrounding cratons. Some of them presents Archean seed nuclei, but generally speaking, they are mostly formed by fractions of Paleoproterozoic fold belts (there are some cases with Mesoproterozoic sedimentary covers).

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