

Tectonics, relief compartments and Cenozoic sediment distribution in the Paraíba do Sul River middle valley (SE Brazilian Plateau)

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Geomorphologic and stratigraphic studies concerning to the Cenozoic evolution of the Southeastern Brazil reveal the influence of neotectonic activities. The studied area is inserted in the Continental Rift of the Southeastern Brazil (CRSB) and comprises a huge hilly domain and neighbouring mountain ranges, in the limits of São Paulo, Rio de Janeiro and Minas Gerais states. This region is characterized by Precambrian crystalline basement with a strong NE-SW orientation, affected by an important Meso-Cenozoic tectonic reactivation, responsible for the uplifting of the ranges and development of the CRSB. It was elaborated a map based on fluvial dissection degree analysis, that reflect, better than traditional ones, the relief response to tectonic movements. Three major relief compartments are stood out in this map. They are mostly controlled by NE-SW, NW-SE and E-W structures. Some conspicuous aspects can be observed, as the E-W orientation of the major compartment limits. Their spatial arrangement reproduces a rhomboidal structural pattern, limited in the east and west sides by NE-SW lineaments associated with the reactivation of Precambrian structures, and in the north and south sides by transference zones with E-W orientation, formed during the Atlantic Ocean opening and reactivated during the drift phase. The relationship between the occurrence of Cenozoic deposits and the regional geomorphologic map points to a great influence of the neotectonic activities on their spatial distribution, promoting the retention or the evasion of the sediments as local knickpoints moved, and also promoting their preservation.