

THE COLOMBIAN ORINOQUIA - AMAZONIA RELIEF EVOLUTION

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During Cretaceous - Early Tertiary times, Proterozoic and Paleozoic basement rocks defined a high plain morphology between rifting basins with associated plutonism. The western Putumayo and Orinoquia basins were filled by marine - continental sequences while continental sequences dominate the Brazilian Solimões and Amazon basins on the east. During the Neogene, the Andean orogeny was responsible for the inversion of the Putumayo and Orinoquia basins, folding and thrusting the sedimentary rocks, along the western part of the region. Consequently, these sequences were thickened and reached the same level (orogeny surface) of the high plain basement. In contrast, the Solimões and Amazon basins remained undeformed. During the Mid Miocene an extensive fluviolacustrine system was developed on the orogeny surface, alternating with episodic transgressions which reached the Magdalena and Amazonia areas in Peru and Brazil. During the Late Miocene, the maximum compression phase established the proto-Andes mountains and the foreland basins and promoted also the blockage and disorder of the drainage system originating lakes and migration of channel courses. Fluvial systems inverted towards the east generating coalescent fan deposits (Orinoquia). During the Plio-Pleistocene, the steady state movement along the thrust front uplifted the blocks at the south of Meta river, while in the north alluvial plains were formed by debris flows carried from the Andean mountains. During the Holocene there was the formation of alluvial and aeolic deposits (Orinoquia); fluviovolcanic deposits and large alluvial plains (Colombian Amazonia). Inversion tectonics, including folding and differentiated movements are registered in the foothills regions