



## **Cenozoic Source-to-Sink of the African margin of the Equatorial Atlantic**

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The objective of the Transform Source to Sink Project (TS2P) is to link the dynamics of the erosion of the West African Craton to the offshore sedimentary basins of the African margin of the Equatorial Atlantic at geological time scales. This margin, alternating transform and oblique segments from Guinea to Nigeria, shows a strong structural variability in the margin width, continental geology and relief, drainage networks and subsidence/accumulation patterns. We analyzed this system combining onshore geology and geomorphology as well as offshore sub-surface data.

Mapping and regional correlation of dated lateritic paleo-landscape remnants allows us to reconstruct two physiographic configurations of West Africa during the Cenozoic. We corrected those reconstitutions from flexural isostasy related to the subsequent erosion. These geometries show that the present-day drainage organization stabilized by at least 29 Myrs ago (probably by 34 Myr) revealing the antiquity of the Senegambia, Niger and Volta catchments toward the Atlantic as well as of the marginal upwarp currently forming a continental divide. The drainage rearrangement that led to this drainage organization was primarily enhanced by the topographic growth of the Hoggar swell and caused a major stratigraphic turnover along the Equatorial margin of West Africa. Elevation differences between paleo-landscape remnants give access to the spatial and temporal distribution of denudation for 3 time-increments since 45 Myrs. From this, we estimate the volumes of sediments and associated lithologies exported by the West African Craton toward different segments of the margin, taking into account the type of eroded bedrock and the successive drainage reorganizations. We compare these data to Cenozoic accumulation histories in the basins and discuss their stratigraphic expression according to the type of margin segment they are preserved in.