

MORPHOMETRIC ANALYSIS OF THE ZAÏRE DRAINAGE BASIN

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From the gulf of Guinea to Namibia, the central African continental margin is covered by sediment thicknesses that can reach 10 km since the Neocomian rifting. We estimate the volume of sediments in the range of $4.5 - 5106 \text{ km}^3$, in the absence of any mountain belt that could explain it. Mechanical erosion which is generally considered to be linked with the importance of relief may be in this case partly controlled by other phenomena. In Central Africa we studied an area located between 8°E and 30°E of longitude and 10°N and 15°S of latitude, which corresponds to an area bounded by the East African Rift, the South-African Plateau, and the Hot line of the Benue to the north. At the present time, this area is poorly drained by the Zaire tributaries. We analysed morphometric characteristics (hypsometry and fractal characteristics of relief) and modeled denudation rates of subcatchments of the Zaire drainage basin and of coastal catchments (Ogue, Cuenza...) on the USGS30 DEM. Hypsometric integrals and roughness amplitude show geographically homogeneous patterns and are characteristic of a regional geologic setting. This study allows to recognize intensively eroded areas for the present and to propose a scheme for eroded areas in the past. The use of Surface Process models (SPMs) may enlighten the role of the bulge erosion in the volume transferred from the continent to the margin.