

PALEOTOPOGRAPHIC EVOLUTION OF AFRICA DURING CRETACEOUS, TIME OF THE SOUTH ATLANTIC OCEAN OPENING

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Cretaceous is in Africa time of the Atlantic Ocean opening and of major climatic changes from arid (lowermost Cretaceous) to humid (Maastrichtian) conditions. A set of 6 palaeogeographic maps has been drawn using published data, to reconstruct the palaeotopographic evolution of Africa during this time interval. The first step was a reevaluation of the published biostratigraphic data, mainly on continental environments. The topographic evolution of Africa is characterized by three main periods: Berriasian to Aptian: Opening of the South Atlantic Ocean and Natal Valley. The Valanginian recorded an uplift of north-western Africa, with erosion and growth of margin deltas. This event is prior or coeval with the growth of the Sudan, Chad, Niger and South Atlantic rifts. Aptian to Cenomanian: Subsiding Africa. North and central Africa preserved large volumes of continental sediments (? Continental intercalaire?, Nubian Sandstones?), flooded by the sea (most of the Albian sediments are tidal estuarine deposits) with the growth of the Transsaharian Seaway of Late Cenomanian age (larger than previously expected).

Cenomanian to Maastrichtian: Major uplift of Africa. The end of the Cenomanian is coeval with the early stage of the South African Plateau uplift, with a paroxysm at the Turonian-Santonian boundary. This led to the growth of deltaic systems organized in an overall progradation trend, ending around the Maastrichtian-Danian boundary. This uplift is also recorded along the Man-Leo High (Ghana to Guinea-Bissau) and along the Tanzanian to Somalian margin. This period recorded a major change of the palaeogeography of Africa.

The cause of those deformations and of the associated relief growths will be discussed.