

The North – South Paleozoic to Quaternary trend of Alkaline magmatism from Niger-Nigeria to Cameroon: complex interaction between hotspots and Precambrian faults.

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The alkaline magmatism from Niger-Nigeria to Cameroon forms large-scale magmatic provinces across the African plate. It displays a N-S trend from Aïr in Niger to Jos Plateau in Nigeria changing southwards into the Benue and Cameroon oblique magmatic lines of Cretaceous and Cenozoic ages, respectively. Recent petrological, geochemical and structural data here compiled show that although the general age decreases from one magmatic province to another (407±8 Ma in Aïr to ≤ 66 Ma in Cameroon), there is no age migration in a given province, except in the Nigeria province (Younger Granites) where a rough NE-SW age decrease is observed. Although the different provinces share similar geochemical features, the relationship among them or between different magmatic complexes within a given province, including those exhibiting SW-NE parallel alignments of intrusive and volcanic bodies, like the Jos Plateau, the Benue and the Cameroon Line (CL) provinces, do not fit with a simple hotspot model. More detailed structural maps of the African continent and recent theoretical developments on the origin of linear

magmatic structures enable us to suggest an alternative hotspot model, involving complex interactions between lithospheric fractures and, at least two plumes and the St Helena hotspot, successively. These ones induced oblique alignments of new magmatic complexes across the general NS tract generated by the northward motion of the African plate over these hotspots.