

Early Cenozoic to Present magmatism of the Cameroon Line

The Cameroon Line (CL) straddles the continent-ocean boundary and is formed by 3 volcanic islands and by tens of continental magmatic complexes, which are either plutonic (ca. 70-6 Ma) or volcanic (ca. 40-Present). Considering its total length and its long duration it is a unique magmatic province. Geochemical and geochronologic studies have been conducted on a relatively small number of volcanic complexes, while the older plutonic complexes have been relatively less studied. In particular, a unifying study on the time-related evolution of the magmatism and of its origin has never been attempted so far. In particular, a complete Re-Os isotopic study of the CL is lacking and could contribute to the understanding of its shallow vs deep mantle source contributions. For this project we propose to work on following aspects:

- Sampling of early Cenozoic to Miocene plutonic complexes and of mantle xenoliths along the continental Cameroon Line (CL).
- Geochemical analyses, including Sr-Nd-Pb-Os and Ar/Ar geochronology.
- Os analyses of already sampled Miocene-Present volcanic centers and of the mantle rocks.
- Definition of time-related evolution of the CL, of its mantle source and of crustal assimilation processes.

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