The origin of hotspot lines without age progression is a topic of unsettled debate and as such there are a variety of models with a range of complexity employed to explain these features. For instance, because these non-age progressive hotspot tracks do not conform to a standard mantle plume model, they require additional to the plume framework such as lateral transport, re-crustal volcanic activity, and multiple plumes. Non-plume models explaining the linear features also exist and typically model lithospheric tectonic fractures, chemical plumes, small-scale convection, or decompression melting near a cratonic margin.

The Cameroon volcanic line (CVL) is an 1800 km lineament of Conoco volcanics stretching into both the Gulf of Guinea and Central Africa. Because the CVL is fairly active with Holocene volcanism if not younger, it is one of the most prominent volcanic lineaments that exhibits little discernible age progression. Interpreting the CVL are diverse, and include single and multiple plumes from the shallow to deep mantle, volcanism associated with rift-trench processes, and a variety of volcanic complexes. This makes it challenging to determine the tectonic setting and associated processes within the CVL.

The goal of the Cameroon Seismic Array is to image the crustal and upper mantle structure of the CVL region to gain insights on the origin of non-age progressive volcanic lineaments. The array was deployed in two phases:

- a trial 8 station array the first year (2004)
- an expanded array of 32 stations the following year (2006)

Stations and data were recovered in early 2007. Data will be analyzed utilizing a variety of seismological techniques to investigate the origin of the CVL.

REFERENCES

Kendall, B., et al., Cameroon Line investigation: centrifugal or not?  in Age of rocks of Cameroon Line and the Benue Trough, Geological Society of America, p. 577-596


FORECASTING WORK

2D surface wave velocity tomography to complement body wave tomography.

Expanding current investigations to include remote sensing from the Cameroon Seismic Array.