

Dale, A. J., Reuber, K., Bird, D. E., and Mann, P., 2013, **Central Atlantic magmatic province plume focus and evidence for its relation to the basement of the Bahamas** (abstract): Geological Society of America, South Central Section, 47th Annual Meeting, 28-11.

A series of paleogeographic maps are coupled with a compilation of modeled gravity profiles and mapped dike intrusions of the Central Atlantic Magmatic Province (CAMP) plume in order to better understand the focus of the plume and how it relates to the creation of the Bahamas chain of islands. Although many theories have been proposed to describe the creation of the Bahamas and the nature of its basement rocks, these first-order tectonic problems remain poorly understood. In ArcGIS, we algorithmically produced a center of the CAMP plume by performing image analysis tools to compute an estimated radial center for the dike configuration at 200 Ma, which is the accepted age of the dike swarms. In general, this location agrees with previously placed foci where less precise methods were employed. Our location is located off the western coast of Africa, and just offshore of the southwestern regions of Senegal (18 degrees 7'45"W, 12 degrees 35'15"N). Additionally, this study indicates that the Bahaman Islands do not lie over continental crust that was offset by a transform fault through Florida. The Bahamas were, in fact, built upon massive seamounts produced by CAMP volcanic activity. We suggest that these seamounts were emplaced, possibly discontinuously, roughly between 200 and 140 Ma. As the seamounts subsided they provided the needed height for the carbonate factory to flourish. Since then, the Bahamas have become one of the most prolific carbonate growth features in the world. A reconstruction at 200 Ma illustrates the relative position of the modern day Bahamans Islands and the newly calculated plume focus. Modeled gravity profiles indicate classic carbonate platform aggradational geometries build upon deeper volcanic features.