DE LA RUE, SARAH R., Department of Geology and Geophysics, University of Missouri-Rolla, Rolla, MO 65409, USA, presently at Louisiana State University, Baton Rouge, LA 70803), and FRANCISCA E OBOH-IKUENOBE, Department of Geology and Geophysics, University of Missouri-Rolla, Rolla, MO 65409,USA

Temporal Dynamics of Paleogene Paleovegetational Response to Climatic Changes and Regional Upwelling, West Africa (ODP Site 959)

The highly varied spore-pollen assemblages recovered from Ocean Drilling Program (ODP) Site 959, one of four Leg 159 drill sites located approximately along the strike of the Côte d'Ivoire-Ghana Transform Margin, show the presence of discrete coastal and forest complexes. These complexes existed in a diversity of ecological habitats that correspond well with the botanical composition and physiognomy of the modern West African and New Guinean mixed moist evergreen and deciduous coastal tropical rain forests (Richards, 1964; Germeraad et al., 1968; Graham 1985, 1995; Frederiksen 1985). The assemblages suggest that much of the Paleogene here was characterized by (1) a coastal, estuary *Nypa*-palm vegetation complex fringed by a lowland rain forest on the adjacent West African landmass, and (2) a tropical climate.

Temporal changes observed within the spore-pollen (sporomorph) assemblages imply climate-driven vegetation successions responding to fluctuations in humidity and precipitation levels that in turn, may have been related 1) to regionally reduced sea-surface temperatures exacerbated by trade winds development and offshore upwelling, and 2) to global tectono-climatic events. That the microplankton populations appear to reflect episodic, pronounced intervals of nutrient enrichment suggests a marine trend related to environmentally-controlled conditions forced by upwelling-enhanced surface-water fertility. The distribution of the dispersed organic material in the samples is therefore intimately linked to, and controlled by, the oceanographic and atmospheric processes acting on the immediate area of the Côte d'Ivoire-Ghana (CIG) marginal ridge depositional site.