Foraminiferal I/Ca results from the Benguela Upwelling System

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The Benguela Upwelling System (BUS), one of the most productive areas in the world oceans, has been studied to reconstruct changes in primary productivity and ecology. However, little effort has been dedicated to reconstructing oxygenation changes. Here we report core-top I/Ca data on eight planktonic with depth habitats range from near-surface to thermocline and four epi-faunal benthic foraminiferal species from the Southeast Atlantic Ocean, and particularly the west African margin (20 sites at 3°N - 35°S, 2°E - 18°E; water depths between 327 m and 1995 m).

I/Ca data from near or within the BUS provide new insights how the I/Ca proxy should be applied for oxygenation reconstructions. Generally, low foraminiferal I/Ca are associated with low-O2 water, consistent with previous studies. In some cases, low I/Ca signals may be the result of low iodate water transported from nearby locations, cautioning the use of planktonic I/Ca as a proxy for in-situ conditions. Downcore records from GeoB1720-2 (28°59'S, 13°50'E; water depth: 1997 m) will be presented in the context of these core-top data.