

# What Determines the Quality of Benthic Foraminifera at Site 1089 in the Deep South Atlantic Ocean?

Kimberly Acevedo<sup>1</sup>, Robert K. Poirier<sup>2</sup>, Reinhard Kozdon<sup>2</sup>, Maureen E. Raymo<sup>2</sup>

<sup>1</sup>*Dominican College of Blauvelt*, <sup>2</sup>*Lamont-Doherty Earth Observatory of Columbia University*

Common paleoclimate records are generated from fossil foraminiferal shells. Shells of benthic foraminifera living at the seafloor primarily record isotopic changes relating to global ice volume, temperature, and ocean circulation. However, the extent to which shell preservation quality affects these signals is relatively unknown. This project aims to determine how preservation quality changes between glacial and interglacial climate periods. In the deep Pacific Ocean on average, glacial periods have better preserved foraminiferal shells than interglacial periods. Here, I present results from IODP site 1089, where I track preservation changes in *Cibicidoides* from the last glacial maximum to the modern Holocene (~1-21 ka). Results show similar patterns of preservation in the deep South Atlantic Ocean as those from the deep Pacific Ocean. In general, I found a decrease in *Cibicidoides* assemblage preservation beginning at ~15 ka, associated with changes in deep Atlantic Ocean circulation and rising atmospheric CO<sub>2</sub> concentrations.