

Radiocarbon dating for stratigraphic control of marine sediment cores used to study changes in the Agulhas Retroflexion

Allison Franzese (franzese@ldeo.columbia.edu)

Abstract

I request funds pay for radiocarbon analyses, performed by Accelerator Mass Spectrometry (AMS), for the purpose of dating marine sediment cores. For any paleoceanographic study, there is a need for accurate and reliable stratigraphic control. While there are many ways to stratigraphically correlate sediment cores, ^{14}C is currently the only way to get an absolute age for most deep-sea sediments. I will use these ^{14}C ages to find the stratigraphic location of the sediments that were deposited during the Last Glacial Maximum (LGM) in a suite of sediment cores taken from the ocean floor south of Africa, at and near the present-day position of the Agulhas Retroflexion. My goal is to create a map of the strontium isotopic composition of the sediments that were deposited in that region during that time. Such a map should reveal whether the location of the Agulhas Retroflexion was the same or different than it is today. These findings could have implications for exchange of waters between the Indian and Atlantic Oceans, an important variable in the climate system.