

## **Developing an isotopic foraminiferal transfer function for reconstructing tropical thermocline structure and heat storage**

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Summary: The zonal structure of the tropical thermocline is a measure of ocean heat storage which is dynamically linked to tropical surface winds. Reductions in tropical SSTs during the last glacial maximum most likely reflect changes in the subsurface tropical thermocline structure. Using a transect of 24 equatorial Atlantic coretops, we propose to analyze the oxygen isotopic compositions of surface-, thermocline-, and deep-dwelling species of planktonic foraminifera to develop an isotopic transfer function to quantitatively reconstruct the tropical thermocline structure using the reduced-space optimal analysis statistical method described by Kaplan et al. (1997). Recently published foram assemblage and isotope studies are very promising and suggest that a more in-depth study such as this one is justified. We request \$4,428 to complete this analysis which, if successful, will be used to pursue outside funding.