



Climate variability on centennial timescales in the Timor Sea during Marine Isotope Stages 2 and 3

A. Duerkop (1), R. Zuraida (1,2), A. Holbourn (1), W. Kuhnt (1), D. Nuernberg (2) and N. Andersen (3)

(1) Institute of Geosciences, Christian-Albrechts-University, Ludewig-Meyn-Str. 10-14, D-24118 Kiel, Germany, (2) Leibniz-Institute of Marine Sciences, IFM-GEOMAR, Wischhofstr. 1-3, D-24148 Kiel, Germany, (3) Leibniz-Laboratory for Radiometric Dating and Stable Isotope Research, Christian-Albrechts-University, Max-Eyth-Str. 11 - 13, D-24118 Kiel, Germany (anked@gpi.uni-kiel.de)

We present a high resolution (60-120 yr) multi-proxy record spanning Marine Isotope Stages 2 to 3 from IMAGES Core MD01-2378 (121°47.27'E and 13°04.95'S, 1783 m water depth), located within the frontal area between the Indonesian Throughflow and West Australian Current (Timor Sea, off NW Australia). Today, this area is influenced by the Intertropical Convergence Zone, which drives monsoonal winds during austral summer, and by the main outflow of the Indonesian Throughflow, which represents a key component of the global thermohaline circulation system. Thus, this core is ideally situated to monitor the linkages between tropical and high latitudes climate variability. Benthic $\delta^{18}\text{O}$ data (*Planulina wuellerstorfi*) clearly reflect Antarctic warm events (A1-A4) and a bipolar seesaw pattern with the Northern Hemisphere GISP ice core. Spectral analysis of planktonic $\delta^{18}\text{O}$ (*Globigerinoides ruber* white) shows power in the 1.5 ky Dansgaard-Oeschger (DO) band, however 1.5 ky filtered $\delta^{18}\text{O}$ reveals no direct correlation of individual DO events in the Northern Hemisphere with our record. Benthic foraminiferal census counts data suggest a coupling of Antarctic cooling with carbon flux patterns in the Timor Sea. We relate increasing abundances of carbon-flux sensitive species to northeastward migrations of the West Australian Current frontal area, which are also supported by decreasing SST.