



FORAMS 2006

Foraminiferal evidence for the intensification of the East Australia current during the LGM

Li Chung-Leong; Stephen Gallagher & John Bye

*School of Earth Sciences, University of Melbourne, Parkville, Victoria 3010, Australia
c.li2@pgrad.unimelb.edu.au*

Reconstructions of paleoceanographic conditions for the Last Glacial Maximum (LGM) from foraminiferal proxy data have sparse data coverage in the oceans of southern and southeastern Australia. Results from the planktonic foraminiferal analyses of sediment cores from the Murray Canyon (Core MD03-2611G) and Bass Canyon (Core FR 11/98 PC-26) have been used to interpret modern and LGM paleoceanographic conditions. These results were compared with other planktonic foraminiferal data in southeast Australia to obtain an overview of paleoceanographic change from the LGM to today. The greater amount of subantarctic species and the decrease in transitional and subtropical species during the LGM suggest lower sea surface temperatures during the LGM compared to the modern ocean. The less transitional and more subantarctic water mass was associated with the more northerly location of the Subtropical Front during the LGM compared to today, similar to other published records in the region. While there is evidence of recent upwelling in the cores from high abundances of *Globigerina bulloides*, the marked increase in this species at the LGM level suggests an increase in the intensity of upwelling. This indicates a stronger Flinders Current possibly due to the stronger Tasman outflow from the Pacific. Results from the Bass Canyon core also suggest the continued and perhaps intensified flow of the East Australia Current during the LGM, due to a stronger gyral wind field in the Pacific Ocean, which in turn would have been responsible for the intensification of the Tasman outflow.