



Middle Miocene Climate Transition as recorded in the Mediterranean Sea

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The middle Miocene is characterised by an important step in global climate evolution. A major shift in $\delta^{18}\text{O}$ from various marine records has been related to rapid expansion of the East Antarctic Ice Sheet at ~ 14 Ma. The associated sealevel fall may have had important effects on the Tethyan seaway, connecting the Mediterranean to the Indian Ocean. Closure of the seaway will have caused major changes in ocean circulation both regionally and globally.

The Maltese Islands represent one of the few locations where open marine sediments of middle Miocene age are exposed on land. In this sequence, a marked transition from limestones (Globigerina Limestone Formation) to marls and clays (Blue Clay Formation) is found. The top of the transitional bed between these formations has been dated at 13.82 Ma and coincides with the major Mi-3b shift in $\delta^{18}\text{O}$ (Abels et al. 2005). This level has recently been selected to define the boundary between the Langhian and Serravallian.

To get more insight in the effects of climate change and seaway closure on the Mediterranean, we will analyse benthic foraminiferal assemblages and the stable isotope composition of foraminiferal carbonates. Here we will present the first results of two marine sections from the Maltese Islands, which encompass the middle Miocene climate transition.