

Supplement of

Photic zone niche partitioning, stratification, and carbon cycling in the tropical Indian Ocean during the Piacenzian

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Section S1

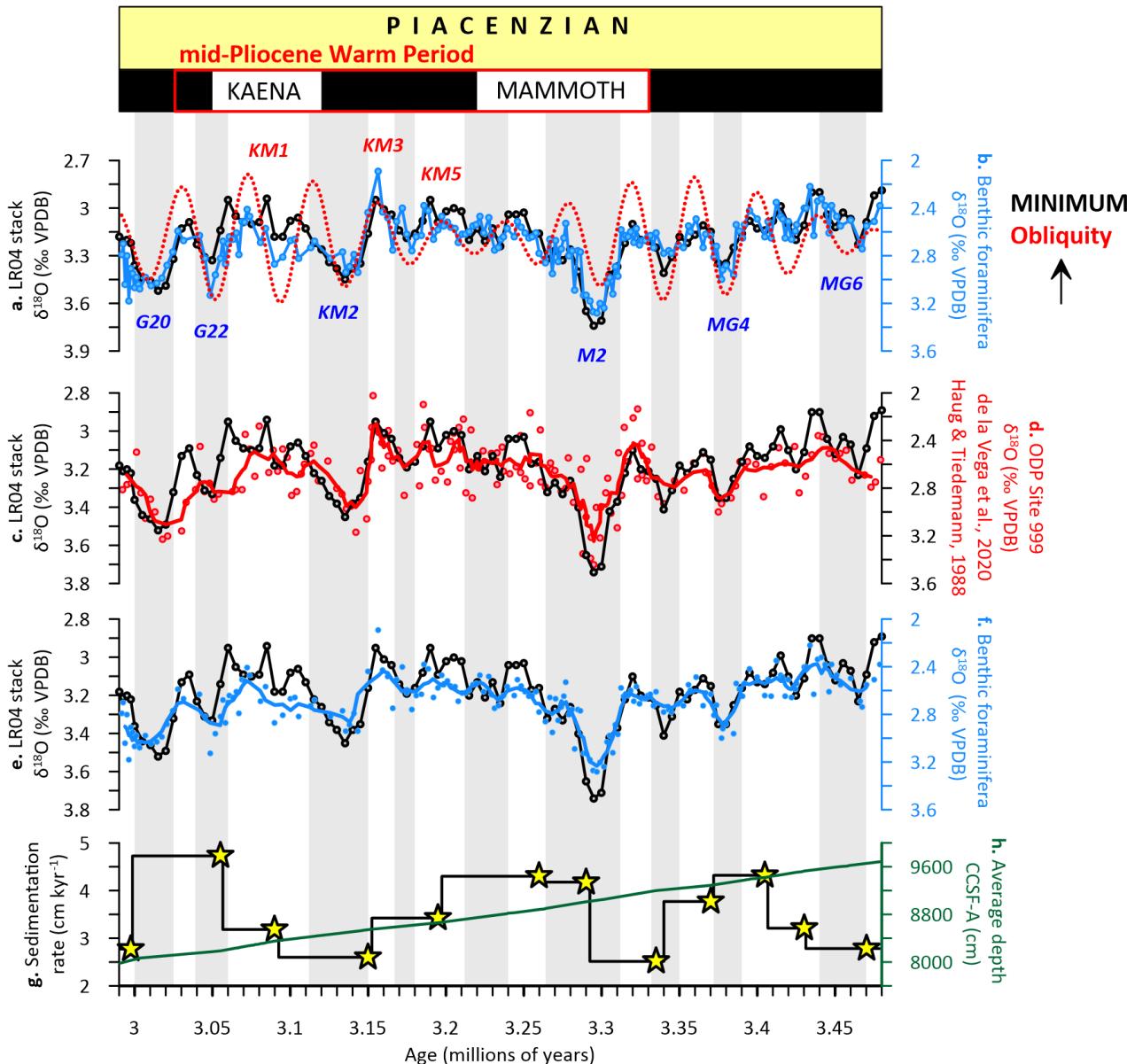


Fig. S1: Age model and sedimentation rates at Site U1476. (a, c, e) global benthic foraminiferal $\delta^{18}\text{O}$ stack (Lisiecki and Raymo, 2005), (b, f) Site U1476 benthic foraminifera $\delta^{18}\text{O}$, (d) ODP Site 999 benthic foraminifera $\delta^{18}\text{O}$ (de la Vega et al., 2020; Haug & Tiedemann, 1988), (g) sedimentation rates, (h) average depth in the splice, stars indicate age control points. The red box highlights the mid-Piacenzian Warm Period, and glacial stages are shown by grey horizontal bars (Lisiecki and Raymo, 2005).

Section S2

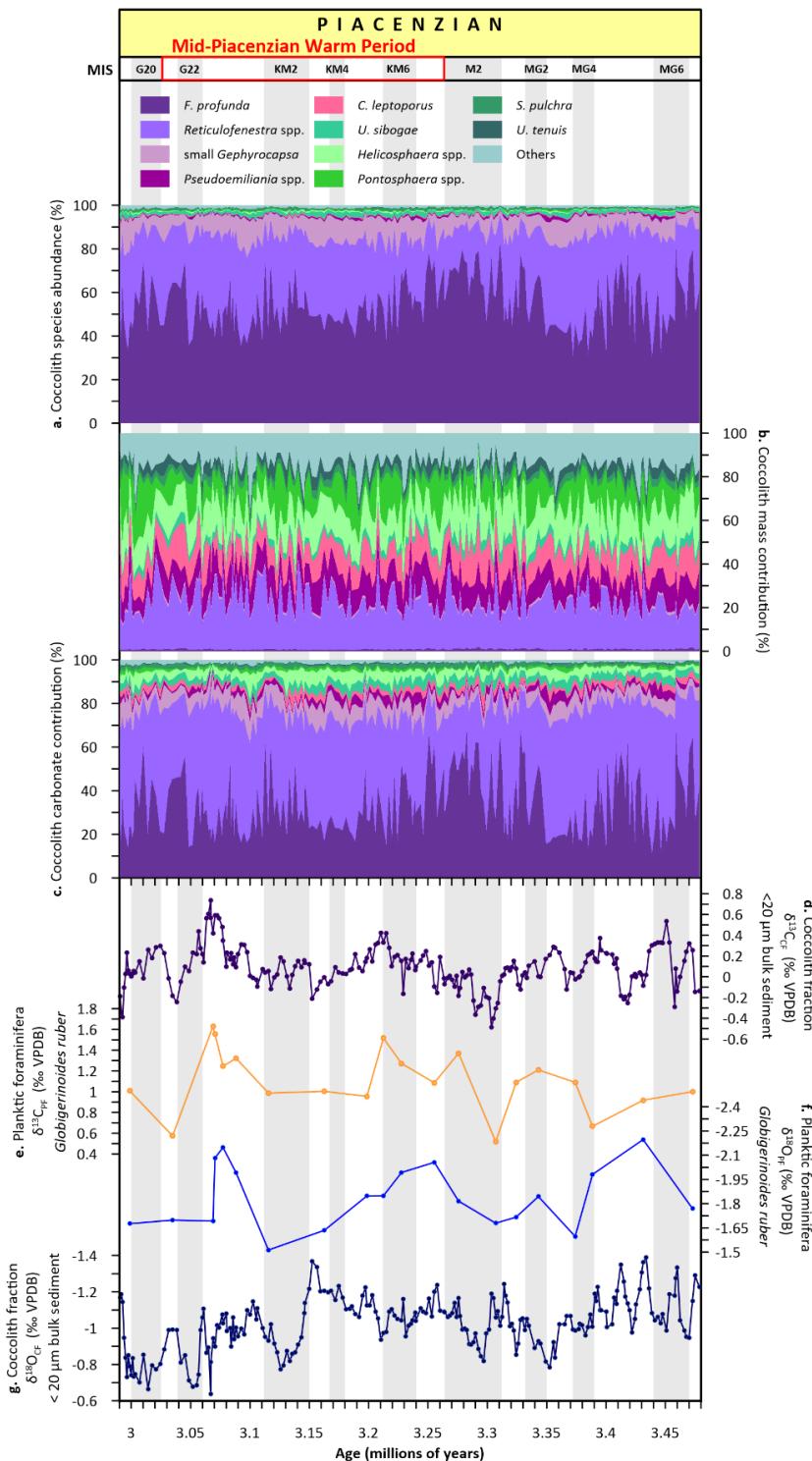


Fig. S2: Summary of coccolithophore assemblage composition, carbonate mass contribution, and stable isotope records from IODP Site U1476 during the Piacenzian (~3.0–3.5 Ma).

(a) relative species abundance of coccolithophores, (b) coccolith mass contribution by each taxon, (c) total coccolith calcium carbonate contribution of individual species in the <20 µm fraction, (d) $\delta^{13}\text{C}$ and (g) $\delta^{18}\text{O}$ values of the coccolith fraction (<20 µm bulk sediment), (e) $\delta^{13}\text{C}$ and (f) $\delta^{18}\text{O}$ values from the surface-dwelling planktic foraminifer *Globigerinoides ruber*. The red box highlights the mid-Piacenzian Warm Period, and glacial stages are shown by grey horizontal bars (Lisiecki and Raymo, 2005).

References

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- Haug, G. H., & Tiedemann, R.: Effect of the formation of the Isthmus of Panama on Atlantic Ocean thermohaline circulation. *Nature*, 393, 6686, 673-676, 1998.
- Lisiecki, L. E. and Raymo, M. E.: A Pliocene-Pleistocene stack of 57 globally distributed benthic $\delta^{18}\text{O}$ records, *Paleoceanography*, 20, 10.1029/2004pa001071, 2005.