



Supplement of

Southern Ocean control on atmospheric CO₂ changes across late Pliocene Marine Isotope Stage M2

Suning Hou et al.

Correspondence to: Suning Hou (s.hou@uu.nl)

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Supplement

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Table S1

Figure S1, S2

Table S1: Datums of the late-Pliocene Site 1168A. Tie points as indicated in Fig. 3.

Number	Datum type	Hole	Remark	Age (ka)	Age min	Age max	Depth (mbsf)	Depth min	Depth max	Source
1	L*	1168A	G17	2940	2937	2960	28.5			Exon et al., 2001
2	$\delta^{18}\text{O}_{\text{bulk}}$	1168A	G20	3008.4	3000	3025	29.99	29.8	30.2	This study
3	$\delta^{18}\text{O}_{\text{bulk}}$	1168A	G21– G20 slope	3031	3030	3032	30.505	30.22	30.79	This study
4	$\delta^{18}\text{O}_{\text{bf}}/\delta^{18}\text{O}_{\text{bulk}}$	1168A	KM3– KM2 slope	3146.82	3142	3151	32.71	32.51	32.78	This study
5	$L^*/\delta^{18}\text{O}_{\text{bf}}$	1168A	M1	3248			34.225			This study
6	$L^*/\delta^{18}\text{O}_{\text{bf}}/\delta^{18}\text{O}_{\text{bulk}}$	1168A	M2	3298			35.2			This study
7	$L^*/\delta^{18}\text{O}_{\text{bf}}/\delta^{18}\text{O}_{\text{bulk}}$	1168A	MG1	3324			35.95	35.84	36.235	This study
8	$L^*/\delta^{18}\text{O}_{\text{bulk}}/\delta^{18}\text{O}_{\text{bf}}$	1168A	MG3	3364.6			36.8	36.67	37.17	This study

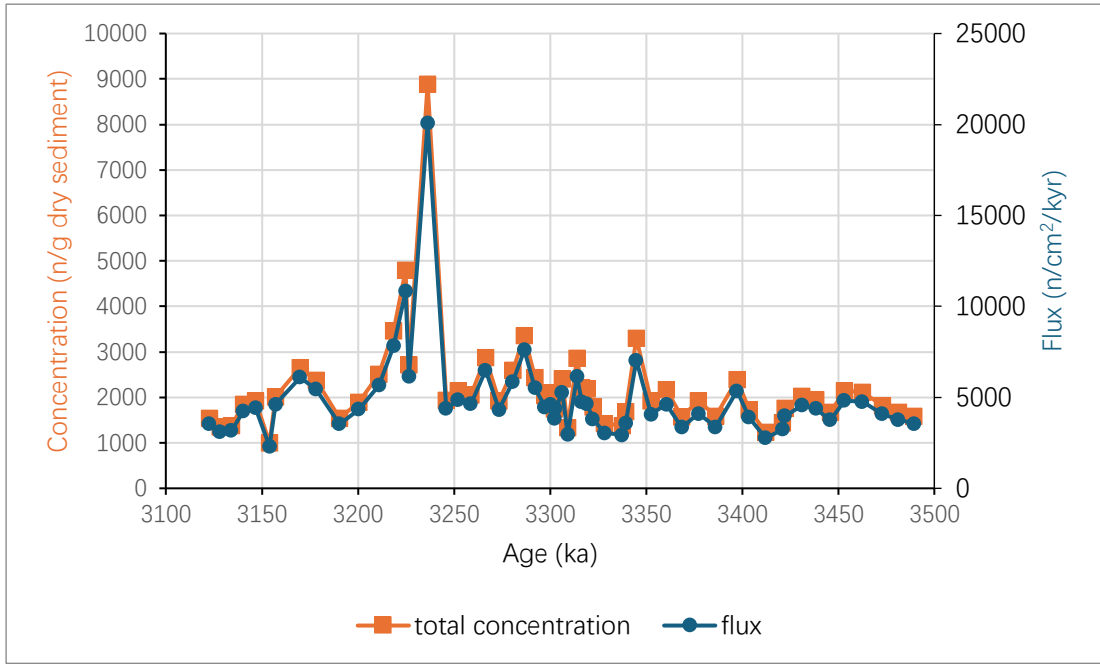


Figure S1: Total concentration and burial flux of dinocysts.



Figure S2: a. *Invertocysta tabulata* (Sample 189-1168A-5H2W, 100–102 cm) b. *Impagidinium aculeatum* (Sample 189-1168A-5H2W, 40–42 cm) c. *Impagidinium pallidum* (Sample 189-1168A-4H6W, 25.5–27.5 cm) d. *Impagidinium paradoxum* (Sample 189-1168A-5H1W, 75–77 cm) e. *Impagidinium patulum* f. *Nemosphaeropsis labyrinthus* (Sample 189-1168A-5H1W, 75–77 cm) g. *Operculodinium centrocarpum* (Sample 189-1168A-4H6W, 25.5–27.5 cm) h. *Operculodinium janduchenei* (Sample 189-1168A-5H1W, 75–77 cm) i. *Pyxidinospis reticulata* (Sample 189-1168A-5H2W, 40–42 cm); j. *Spiniferites* spp. (Sample 189-1168A-5H1W, 75–77 cm) k. *Spiniferites* spp. (Sample 189-1168A-5H1W, 14–16 cm) l. *Spiniferites* spp. (*rubinus/coniconcavus*) (Sample 189-1168A-5H2W, 40–42 cm)