

Supplementary material for

"Variability of terrigenous input to the Bay of Bengal for the last ~80 kyr: Implications on the Indian monsoon variability"

Journal: **Geo-Marine Letters**

Authors: Champoungam Panmei^{1,2}, Pothuri Divakar Naidu¹, Sushant Suresh Naik¹

¹ CSIR - National Institute of Oceanography (CSIR-NIO), Dona Paula, Goa 403004, India.

² Academy of Scientific and Innovative Research (AcSIR), CSIR-NIO, Goa 403004, India.

Corresponding author: cpanmei@nio.org (C. Panmei)

Contents of this file:

Table S1. Chronology of Core MD161/28. Radiocarbon ages of planktonic foraminifera species *Globigerinoides ruber* and corresponding calibrated ages up to 600 cm depth, and from 600 cm to 1036 cm the ages were derived based on Marine Isotope Stage boundaries (*) 3/4, 4/5 and 5.1 of $\delta^{18}\text{O}$ data of MD161/28. Radiocarbon ages are calibrated to calendar ages using Calib Rev 7.1 program and Marine13 calibration curve (Stuiver and Reimer, 1993; Reimer et al., 2013) with a correction for global reservoir effect of 400 years (Southon et al., 2002). Fig. 2 in the main manuscript is based on this table.

Table S2. Analysed datasets from Core MD161/28 for downcore variations in magnetic susceptibility (MS-low and high frequency) (10^{-5} SI), calcium carbonate (CaCO_3 wt%), Aluminium (Al wt%), Titanium (Ti wt%), and Barium (Ba (ppm)) along with age. These datasets are used in the main manuscript file for production of Fig. 3a-e.

Table S1. Chronology of Core MD161/28. Radiocarbon ages of planktonic foraminifera species *Globigerinoides ruber* and corresponding calibrated ages up to 600 cm depth, and from 600 cm to 1036 cm the ages were derived based on Marine Isotope Stage boundaries (*) 3/4, 4/5 and 5.1 of $\delta^{18}\text{O}$ data of MD161/28. Radiocarbon ages are calibrated to calendar ages using Calib Rev 7.1 program and Marine13 calibration curve (Stuiver and Reimer, 1993; Reimer et al., 2013) with a correction for global reservoir effect of 400 years (Southon et al., 2002).

Depth (cm)	^{14}C age (yr BP)	^{14}C age Error (\pm)	Calib. Age range (1σ) (yr BP)	Calib. Age range (2σ) (yr BP)	Calib. Age (Median probability) (yr BP)
0	1407	± 39	908-994	871-1057	954
100	3781	± 40	3668-3798	3600-3836	3723
147	5502	± 43	5835-5944	5750-5980	5885
200	7125	± 47	7558-7644	7501-7685	7599
202	7185	± 44	7594-7685	7563-7748	7647
297	11884	± 77	13271-13421	13190-13499	13346
300	11945	± 60	13326-13455	13265-13528	13394
350	15587	± 98	18332-18572	18174-18683	18446
400	21530	± 150	25304-25642	25127-25788	25469
448	26300	± 250	29773-30482	29485 - 30735	30121
454	26520	± 240	30103 - 30738	29709 - 30878	30376
600	41600	± 1400	43396 - 45777	42427 - 47241	44696
736*	MIS3/4				58960*
911*	MIS4/5				73910*
1036*	MIS5.1				79250*

Table S2. Analysed datasets from Core MD161/28 for downcore variations in magnetic susceptibility (MS-low and high frequency) (10^{-5} SI), calcium carbonate (CaCO_3 wt%), Aluminium (Al wt%), Titanium (Ti wt%), and Barium (Ba (ppm)) along with age.

Column 1: Sample No./Depth (in cm)

Column 2: Age (kyr BP)

Column 3: Magnetic susceptibility (low frequency) (10^{-5} SI)

Column 4: Magnetic susceptibility (high frequency) (10^{-5} SI)

Column 5: Calcium carbonate (CaCO_3 (wt%))

Column 6: Aluminium (Al (wt%))

Column 7: Titanium (Ti (wt%))

Column 8: Barium (Ba (ppm))

Sample No./Depth (cm)	Age (kyr BP)	MS (Lf) (10^{-5} SI)	MS (Hf) (10^{-5} SI)	CaCO_3 (wt%)	Al (wt%)	Ti (wt%)	Ba (ppm)
0	0.95						
6	1.12			13.1	9.9	0.44	483.2
9	1.20	15.0	14.2				
14	1.34	14.6	13.7				
19	1.48	13.0	12.1				
24	1.62	13.1	12.3				
26	1.67			12.8	9.8	0.43	513.5
29	1.76	12.3	11.4				
34	1.90	12.5	12.0				
38	2.01	10.6	10.0				
58	2.56			14.5	9.7	0.40	516.0
64	2.73	11.1	10.4				
69	2.86	10.6	10.1				
74	3.00	9.2	8.9				
76	3.06			13.8	9.6	0.42	550.9
79	3.14	9.9	9.4				
84	3.28	9.5	9.1				
89	3.42	10.0	9.8				
94	3.56	9.8	9.6				
99	3.70	9.3	9.1				
100	3.73						
106	4.01			14.6	9.1	0.38	492.0
109	4.15	9.7	9.2				
114	4.38	10.5	9.7				
119	4.61	9.6	9.0				
124	4.84	8.6	8.0				

126	4.93			13.8	9.5	0.40	547.1
129	5.07	9.8	9.2				
134	5.30	8.7	8.2				
139	5.53	8.5	8.0				
144	5.76	8.1	7.8				
147	5.89						
151	6.01			14.2	9.4	0.40	529.6
154	6.11	8.7	8.4				
159	6.27	8.7	8.0				
164	6.43	8.6	8.4				
169	6.60	8.7	8.3				
174	6.76	8.8	8.7				
176	6.82			11.7	9.1	0.38	532.7
179	6.92	8.4	8.4				
184	7.08	8.2	8.0				
189	7.24	6.8	6.3				
194	7.40	7.7	7.5				
199	7.57	7.4	7.6				
200	7.60						
202	7.65						
206	7.89			13.8	9.6	0.37	524.2
209	8.07	8.1	7.4				
214	8.37	8.1	7.7				
219	8.67	8.2	7.8				
224	8.97	7.5	7.3				
226	9.09			12.2	9.2	0.37	511.1
229	9.27	8.5	8.1				
234	9.57	8.7	8.5				
239	9.87	9.0	8.8				
244	10.17	9.0	8.6				
249	10.47	8.9	8.6				
251	10.59			15.9	9.7	0.39	509.4
254	10.77	8.7	8.3				
259	11.07	8.3	7.9				
264	11.37	8.8	8.7				
269	11.67	10.0	9.3				
274	11.97	9.6	9.2				
276	12.09			18.8	9.5	0.38	427.7
279	12.27	10.8	10.4				
284	12.57	10.3	9.7				
289	12.87	11.7	10.3				
294	13.17	10.7	10.7				
297	13.35						
300	13.39						
306	14.00			19.4	9.3	0.39	454.6
309	14.30	15.2	14.7				

314	14.81	14.4	13.9				
319	15.31	14.1	14.5				
324	15.82	14.1	13.9				
326	16.02			24.0	8.9	0.42	365.3
329	16.32	12.7	12.4				
334	16.83	14.7	14.4				
339	17.33	16.4	16.1				
344	17.84	21.6	21.1				
349	18.34	19.8	19.2				
350	18.45						
354	19.01	20.1	19.5				
356	19.29			22.6	8.8	0.41	430.9
359	19.71	28.2	27.4				
364	20.41	22.1	21.3				
369	21.11	21.8	21.0				
374	21.82	19.7	19.0				
376	22.10			22.5	8.5	0.39	395.4
379	22.52	16.4	15.5				
384	23.22	20.4	19.3				
389	23.92	19.1	18.4				
394	24.63	21.7	21.1				
399	25.33	20.1	19.4				
400	25.47						
406	26.05			23.4	8.7	0.44	418.0
409	26.34	26.4	25.4				
414	26.83	33.4	32.0				
419	27.31	32.9	31.6				
424	27.80	24.3	23.0				
426	27.99			21.3	8.8	0.41	420.5
429	28.28	18.9	18.1				
434	28.76	18.0	16.6				
439	29.25	14.7	13.9				
444	29.73	12.6	11.8				
448	30.12						
451	30.25			18.1	8.7	0.41	398.8
454	30.38						
459	30.87	11.5	10.9				
464	31.36	12.8	12.6				
469	31.85	12.0	11.4				
474	32.34	10.6	10.4				
476	32.53			20.6	7.7	0.40	374.4
479	32.83	10.6	10.3				
484	33.32	11.2	10.7				
489	33.81	10.6	10.7				
494	34.30	9.8	9.4				
499	34.79	10.1	10.6				

501	34.99			24.3	8.6	0.39	393.5
504	35.28	10.7	9.9				
509	35.77	9.4	9.5				
514	36.26	10.0	9.3				
519	36.75	12.3	11.0				
524	37.24	10.4	8.6				
526	37.44			24.9	7.0	0.38	369.6
529	37.73	9.7	9.3				
534	38.22	10.0	9.7				
539	38.71	10.4	10.5				
544	39.20	11.9	11.6				
549	39.69	10.4	9.9				
551	39.89			19.3	7.6	0.41	444.8
554	40.18	9.7	9.6				
559	40.67	10.6	10.1				
564	41.17	11.9	11.8				
569	41.66	10.5	10.2				
574	42.15	9.6	9.1				
576	42.34			20.7	7.2	0.41	441.7
579	42.64	8.3	7.0				
584	43.13	10.1	9.7				
589	43.62	11.7	11.9				
594	44.11	13.1	13.0				
600	44.70						
601	44.80			18.7	7.9	0.37	360.7
609	45.64	20.9	20.9				
614	46.16	18.5	18.3				
619	46.69	10.9	10.8				
624	47.21	9.3	9.3				
626	47.42			18.4	8.3	0.38	416.0
629	47.74	10.1	10.1				
634	48.26	9.7	9.6				
639	48.79	7.8	7.7				
644	49.31	7.4	7.4				
649	49.84	7.2	7.2				
651	50.04			21.9	8.2	0.39	453.2
654	50.36	7.0	6.9				
659	50.88	7.1	7.1				
664	51.41	7.1	7.0				
669	51.93	7.7	7.5				
674	52.46	8.3	8.5				
676	52.67			19.7	6.7	0.37	377.6
679	52.98	9.0	8.8				
684	53.51	10.0	10.0				
689	54.03	9.5	9.4				
694	54.55	11.4	11.3				

699	55.08	10.7	10.7				
701	55.29			19.7	7.9	0.40	411.1
704	55.60	8.5	8.5				
709	56.13	8.2	8.1				
714	56.65	8.3	8.1				
719	57.18	9.4	9.3				
724	57.70	11.1	10.8				
726	57.91			17.4	9.0	0.40	404.0
729	58.23	10.5	10.2				
734	58.75	12.0	11.8				
736	58.96						
739	59.22	13.8	13.4				
744	59.64	15.0	14.7				
751	60.24			18.9	8.2	0.41	394.0
759	60.92	17.2	16.9				
764	61.35	16.6	16.3				
769	61.78	17.9	17.4				
774	62.21	17.0	16.3				
776	62.38			16.9	8.3	0.40	408.8
779	62.63	16.3	16.0				
784	63.06	15.4	15.3				
789	63.49	15.3	14.8				
794	63.91	14.6	14.3				
799	64.34	15.1	14.7				
801	64.51			18.8	7.6	0.39	393.4
804	64.77	15.3	15.0				
809	65.20	15.6	15.4				
814	65.62	16.1	15.8				
819	66.05	15.0	14.9				
824	66.48	14.5	14.3				
826	66.65			16.7	8.5	0.43	403.8
829	66.90	14.4	13.9				
834	67.33	14.8	14.4				
839	67.76	14.9	14.6				
844	68.19	15.2	14.6				
849	68.61	14.9	14.7				
851	68.78			13.8	7.2	0.41	386.9
854	69.04	15.4	14.9				
859	69.47	15.5	15.5				
864	69.89	14.0	13.8				
869	70.32	14.8	14.5				
874	70.75	13.2	13.0				
876	70.92			11.9	9.0	0.41	435.9
879	71.18	12.1	12.3				
884	71.60	13.3	12.8				
889	72.03	14.4	14.3				

894	72.46	14.4	14.1				
901	73.06			15.5	7.8	0.39	408.2
909	73.74	9.0	8.8				
911	73.91						
914	74.04	9.0	8.8				
919	74.25	8.9	8.9				
924	74.47	8.5	8.5				
926	74.55			12.0	8.2	0.40	449.4
929	74.68	9.6	9.5				
934	74.89	9.6	9.4				
939	75.11	8.6	8.5				
944	75.32	7.5	7.3				
949	75.53	6.7	6.7				
951	75.62			11.8	8.9	0.39	473.1
954	75.75	6.5	6.3				
959	75.96	6.3	6.1				
964	76.17	6.2	6.2				
969	76.39	6.3	6.2				
974	76.60	6.3	6.2				
976	76.69			12.1	9.1	0.39	485.0
979	76.81	6.5	6.5				
984	77.03	6.0	6.1				
989	77.24	6.3	6.3				
994	77.46	6.0	6.0				
999	77.67	5.6	5.4				
1001	77.75			13.8	8.8	0.39	441.0
1004	77.88	11.3	11.0				
1009	78.10	6.7	6.7				
1014	78.31	6.0	6.0				
1019	78.52	5.7	5.7				
1024	78.74	6.4	6.4				
1026	78.82			12.3	9.0	0.38	475.7
1029	78.95	6.6	6.6				
1034	79.16	7.0	6.9				
1036	79.25						
1039	79.66	7.0	7.0				
1044	80.35	8.0	7.9				