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Supplementary Materials

Distributions of Dissolved Manganese in the Surface Waters of the Tropical North-Eastern Atlantic Ocean

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Table S1. Stations, locations, concentrations of dissolved manganese (DMn), Chl-*a*, nitrate+nitrite, phosphate, and residence time (considering the average mixed layer is 90 m) during D326 cruise.

Station (UT)	Latitude (°N)	Longitude (°W)	DMn (nM)	DMn S.D. (nM)	Chl-*a* (µg/L)	Nitrate +nitrite (nM)	Phosphate (nM)	Residence Time (year)
1	24.5637	19.7997	3.31	0.12	0.18	51	100	2.70
2	24.6433	20.1804	1.83	0.04	0.79			1.50
3	24.7375	20.5712	1.79	0.05	0.41			1.50
4	24.8369	20.9874	1.74	0.10	0.61			1.40
5	24.9928	21.6232	1.49	0.05	0.44			1.20
6	25.0301	21.7780	1.26	0.01	0.42			1.00
7	25.1443	22.2299	0.93	0.01	0.56	18	50	0.80
8	25.4537	23.5338	1.04	0.02	0.46			0.90
9	25.6481	24.3456	0.92	0.03	0.69	16	32	0.80
10	25.7445	24.7454	0.81	0.04	0.31			0.70
11	25.8352	25.1255	0.75	0.01	0.20			0.60
12	25.9419	25.5689	0.70	0.03	0.19			0.60
13	25.9514	25.6334				12	8	
14	26.0546	26.0347	0.57	0.03	0.19			0.50
15	26.1421	26.4074	0.54	0.03	0.25	10	9	0.40
16	26.1921	26.6120	0.50	0.05	0.36			0.40
17	26.2655	26.9037	0.50	0.36	0.39			0.40
18	26.3526	27.2838	0.52	0.02	0.20			0.40
19	26.4475	27.6821	0.52	0.11	0.30			0.40
20	26.6356	28.4687	0.39	0.17	0.27			0.30
21	26.7526	28.9467	0.54	0.01	0.23	6	5	0.40
22	26.7971	29.1467	0.59	0.06	0.13			0.50
23	26.8812	29.5123	0.35	0.02	0.02			0.30
24	26.5956	29.3464	0.53	0.04		9	4	0.40
25	26.3053	29.1782	0.41	0.02	0.08			0.30
26	26.0107	29.0076	0.61	0.01	0.11			0.50
27	25.6892	28.8228	0.59	0.02	0.11			0.50
28	25.6283	28.7792	0.39	0.03	0.11	9	6	0.30
29	24.8205	28.3263	0.32	0.04	0.11			0.30
29	24.8205	28.3263	0.33	0.03	0.09	11	12	0.30
30	24.5276	28.1587	0.32	0.03	0.09	19	15	0.30
31	24.2690	28.0102	0.34	0.02	0.15	8.5	8	0.30
32	23.9980	27.8578	0.37	0.03	0.16	7.5	9	0.30
33	23.7275	27.7041	0.57	0.02	0.15	8	13	0.50
34	23.4149	27.5269	0.59	0.08	0.15	9	9	0.50
35	23.3429	27.4835	0.58	0.31	0.15	9	22	0.50
36	23.0621	27.3289	0.62	0.02	0.18	5	23	0.50
37	22.3869	26.9489	0.58	0.08	0.16	7	30	0.50
38	22.1025	26.7903	0.42	0.02	0.15	9	15	0.30
39	21.8079	26.6258	0.64	0.04	0.16			0.50
40	21.5164	26.4636	0.55	0.09	0.18			0.50
41	20.9192	26.1322	0.66	0.07	0.18			0.50
42	20.5917	25.9496	0.78	0.04	0.35			0.60
43	20.3752	25.8336	0.67	0.03	0.22	9	60	0.60
44	20.3771	25.8224	0.78	0.02	0.16	15	61	0.60
45	20.0919	25.6742	0.95	0.03	0.18			0.80
46	19.7878	25.5066	1.07	0.02	0.15	19	75	0.90
47	19.5363	25.3684	1.33	0.01	0.19			1.10
48	19.2695	25.2216	1.64	0.04				1.30
49	18.9581	25.0507	1.71	0.03	0.16			1.40
50	18.7286	24.9266	2.22	0.05	0.22	16	90	1.80
51	18.5127	24.8088	2.22	0.08	0.18	38	100	1.80
52	18.4024	24.7508	1.75	0.15	0.18			1.40
53	18.2623	24.6747	0.66	0.12	0.24			0.50
54	18.1329	24.6040						
55	18.0116	24.5376	0.94	0.01	0.27			0.70
56	17.8881	24.4694	0.82	0.01	0.21	16.5	88	0.70
57	17.7543	24.3951	2.12	0.02	0.25			1.70
58	17.6714	24.3074	3.31	0.03	0.29			2.70
59	17.0977	24.8009						
60	16.9015	25.0686	3.87	0.05	0.33			3.20
61	16.5938	25.2116	3.48	0.10	0.30	51	60	2.90
62	16.2562	25.2697	2.01	0.06	0.37	48	53	1.70
63	15.5624	25.3898	1.94	0.00	0.37	3	26	1.60

64	15.1392	25.4630	1.09	0.08	0.37	5	12	0.90
65	14.9569	25.4840	1.42	0.04	0.43	6	11	1.20
66	14.6798	25.5412	2.23	0.02	0.34	5	9	1.80
67	14.3605	25.5970	1.16	0.07	0.31	6	5	1.00
68	14.0453	25.6502	1.60	0.02	0.20	5	8	1.30
69	13.7258	25.7050	1.58	0.13	0.33	6	9	1.30
70	13.4218	25.7583	1.47	0.08	0.38	5	11	1.20
71	13.0634	25.8186	1.77	0.01	0.31	6	12	1.50
72	12.8300	25.8593	1.97	0.11	0.26	7	7	1.60
73	12.6540	25.9957	0.78	0.07	0.26	8.5	5	0.60
74	12.6449	27.0836	0.92	0.01		9	8	0.80
75	12.6375	27.5947	1.75	0.01	0.58	9.5		1.40
76	12.6260	28.1141	1.29	0.05	0.57			1.10
77	12.6186	28.4816	0.63	0.02	0.52	5	5	0.50
78	12.6131	28.8536	1.48	0.07	0.41			1.20
79	12.6052	29.2273	0.57	0.02	0.45	6	7	0.50
80	12.5735	30.6031	0.69	0.01	0.33	8	15	0.60
81	12.5919	29.9712				6	20	
82	12.5812	30.9391	0.76	0.02	0.33	9	12	0.60
83	12.5755	31.2625	0.76	0.01	0.35	7.5	7	0.60
84	12.5812	31.5992	1.08	0.03	0.16	8	5	0.90
85	12.5677	32.1126	0.93	0.03	0.16	7.5	6	0.80
86	12.5649	32.2777	0.94	0.00	0.16	5	11	0.80
87	12.5526	32.6575	0.56	0.02	0.17	10	5	0.50
88	12.5486	32.9970	0.51	0.04	0.19	9	7	0.40
89	12.5376	35.3221	3.02	0.00	0.22	6.5	6	2.50
90	12.5378	35.1547	0.74	0.00	0.10	9	5	0.60
91	12.5266	34.8609	0.71	0.02	0.20	6.5	13	0.60
92	12.5307	34.5507	0.50	0.01	0.21	7	24	0.40
93	12.5210	34.9862	0.50	0.02	0.18	7.5	13	0.40
94	12.5170	35.3569	1.88	0.01	0.24	9	12	1.50
95	12.5113	35.7374	0.55	0.02	0.19	10	11	0.50
96	12.5082	35.5342	0.53	0.01	0.19	10.5	9	0.40
97	12.5038	35.3563	0.61	0.03	0.41	9	8	0.50
98	12.5375	35.1547	0.61	0.01	0.37	9	15	0.50
99	12.5400	34.8609			0.31	10	14	0.00
100	12.5450	34.5604	1.50	0.03	0.25	8.5	10	1.20
101	12.5512	34.2761	0.58	0.01	0.28	13	11	0.50
102	12.5567	33.9554	0.56	0.02	0.19	9.5	12	0.50
103	12.5639	33.6439	0.51	0.01	0.23	12	15	0.40
104	12.5693	33.2897	0.62	0.03	0.24	7.5	13	0.50
105	12.5759	32.4690	1.00	0.03	0.28	6.5	8	0.80
106	12.5807	32.1401	0.68	0.01	0.24	6.5	14	0.60
107	12.6136	31.7783	0.60	0.02	0.28	6	13	0.50
108	12.6129	31.4200	0.59	0.01	0.24	9.5	11	0.50
109	12.6259	31.0515	1.12	0.06	0.22	12.5	13	0.90
110	12.6422	30.6934	0.58	0.03	0.34	9.5	20	0.50
111	12.6583	30.6342	0.51	0.01	0.21	10	10	0.40
112	12.6754	30.6337	0.54	0.02	0.17	10	9	0.40
113	12.5677	30.6341	0.69	0.00	0.28	9.8	7	0.60
114	13.2484	30.6331	0.68	0.01	0.22	10	11	0.60
115	13.5898	30.6333	0.52	0.01	0.22	9		0.40
116	13.9350	30.6333	0.65	0.02	0.29	8	11	0.50
117	14.3044	30.6333	1.08	0.02	0.25	6.5	12	0.90
118	14.6535	30.6338	0.57	0.02	0.24	5	11	0.50
119	15.0271	30.6345	0.63	0.07	0.24	6	12	0.50
120	15.6835	30.4358	0.67	0.02	0.23	9.5	9	0.50
121	16.0360	30.1330	0.57	0.01	0.15	6	11	0.50
122	16.1770	30.0756	0.59	0.00	0.19	9	12	0.50
123	16.2496	30.1885	0.59	0.02	0.20	8.5	13	0.50
124	16.2580	30.3187	0.50	0.01	0.18	8	22	0.40
125	16.2347	30.4596	1.55	0.08	0.19	6	40	1.30
126	16.2048	30.6284	1.89	0.02	0.20	5.5	40	1.50
127	16.1693	30.6510	1.94	0.12	0.20	5	45	1.60
128	16.1312	30.4103	0.81	0.03	0.21	5.5	50	0.70
129	16.2494	30.0913	1.70	0.04	0.20	5	15	1.40
130	16.2808	29.7338	1.24	0.29	0.18	5	35	1.00
131	16.3210	29.3844	0.51	0.02	0.15	5	90	0.40
132	16.3774	28.8674	1.59	0.01	0.14	5	60	1.30

133	16.4451	28.7042	0.59	0.01	0.15	23	70	0.50
134	16.5429	28.3737	0.58	0.01	0.10	9.5	80	0.50
135	16.5745	28.0274	0.55	0.01	0.14	30	100	0.50
136	16.6419	27.6715	1.68	0.01	0.12	51	102	1.40
137	16.7067	27.2715	1.57	0.00	0.13	50	101	1.30
138	16.7739	26.9778	1.62	0.02	0.12	9	103	1.30
139	16.8511	26.6046	1.52	0.00	0.14	8	104	1.20
140	16.9078	26.5397	1.53	0.02	0.16	9.5	102	1.30
141	16.9802	26.5872	1.58	0.01	0.16	8	90	1.30
142	17.3411	26.6680	1.53	0.02	0.17	7.5	88	1.30
143	17.7402	26.7018	0.93	0.04	0.16	9.8	77	0.80
144	18.4287	26.7415	0.97	0.02	0.17	9	78	0.80
145	18.7094	26.7821	0.50	0.03	0.27	8.5	56	0.40
146	19.0484	26.8234	3.07	0.25	0.13	9.7	58	2.50
147	19.3896	26.8661	1.62	0.01	0.25	12	60	1.30
148	19.7335	26.9056	0.65	0.03	0.19	9.5	65	0.50
149	20.0962	26.9478	0.54	0.00	0.17	9.7	62	0.40
150	20.4285	26.9915	0.55	0.00	0.18	9.5	37	0.50
151	20.7905	27.0318	0.57	0.02	0.12	8	41	0.50
152	21.1297	27.0819	0.51	0.05	0.16	9		0.40
153	21.4704	27.1444	0.53	0.03	0.19	7.5	28	0.40
154	21.8846	27.1863	0.60	0.01	0.15	7	12	0.50
155	22.4034	27.2856	0.51	0.06	0.18	9.5	13	0.40
156	22.7287	27.4642	0.54	0.01	0.13	9	13	0.40
157	22.9791	27.6428	0.58	0.00	0.16	9	8	0.50
158	23.2977	27.8166	0.60	0.05	0.14	9.5	12	0.50
159	23.6131	27.9999	0.47	0.01	0.12	19	13	0.40
160	23.9213	28.1607	0.33	0.00	0.18	31	9	0.30
161	24.2442	28.3551	0.56	0.01	0.11	18	9	0.50
162	24.5281	28.2843	1.18	0.14	0.18	17.5	15	1.00
163	24.8666	28.0859	0.50	0.01	0.20	10	11	0.40
164	25.1751	27.8697	1.22	0.06	0.26	8.5	12	1.00
165	25.2787	27.6659	0.52	0.00	0.21		11	0.40
166	25.3916	27.4559	0.53	0.01	0.21	11	12	0.40
167	25.4968	27.2695	1.08	0.04	0.23	15	11	0.90
168	25.6058	27.1023	1.14	0.03	0.25	8.5	9	0.90
169	25.7112	26.9167	0.58	0.00	0.19	11	11	0.50
170	25.7968	26.7735	0.51	0.04	0.19	20	9	0.40
171	25.8880	26.5993	1.08	0.06	0.20	9	5	0.90
172	25.9647	26.2466	0.53	0.01	0.18	7.5	5	0.40
173	26.0513	26.0111	0.51	0.02	0.20	7	6	0.40
174	26.2010	25.7879	0.50	0.04	0.21	12.5	6	0.40
175	26.2386	25.5470	1.13	0.01	0.17	11	3	0.90
176	26.2763	25.2340	0.50	0.02	0.15	7.6	7	0.40
177	26.3094	25.0324	0.54	0.01	0.22	9.6	5	0.40
178	26.3495	24.7554	0.56	0.01	0.24	20	12	0.50
179	26.3768	24.4420	0.51	0.01	0.20	18	12	0.40
180	26.4203	24.1488	0.65	0.01	0.22	8.5	5	0.50
181	26.4715	23.8204	1.32	0.02	0.23	9.5	5	1.10
182	26.5041	23.3206			0.19	5	6.5	0.00
183	26.5730	22.8073	0.52	0.01	0.19	7.5	7	0.40
184	26.6577	22.4354	1.71	0.11	0.19	48	5	1.40
185	26.7439	22.0564	1.81	0.02	0.13	8.5	7	1.50
186	26.8062	21.6760	1.17	0.00	0.18	46.3	3	1.00
187	26.8733	21.2409	1.23	0.01	0.17	47	12	1.00
188	26.9256	20.9093	1.36	0.02	0.21	9.5	3	1.10
189	27.0047	20.4950	1.22	0.01	0.17	7	3	1.00