Biogeosciences

Discussions

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Supplement of

Are recent changes in sediment manganese sequestration in the euxinic basins of the Baltic Sea linked to the expansion of hypoxia?

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Supplement A: Age models based on ^{210}Pb dating of cores LD1 and BY15

Sediment lead-210 measurements and calculation of ^{210}Pb-based age models for site BY15.

Sample mid-depth (cm)	Observed ^{210}Pb activity (mBq g^{-1})	SE for Observed ^{210}Pb activity (%)	Observed ^{210}Pb activity (mBq g^{-1}, salt corr.)	Excess ^{210}Pb activity (mBq g^{-1}, salt corr.)*	Cumulative excess ^{210}Pb activity (mBq g^{-2}, salt corr.)	Year (CRS model)	Mass accumulation rate (g cm^{-2} yr^{-1}, CRS model)
0.25	1085.9	3.1	1542.5	1429.6	385.61	2009.5	0.008
0.75	1059.1	3.2	1447.6	1334.7	371.89	2008.3	0.008
1.25	763.6	3.2	967.5	854.6	356.29	2007.0	0.010
1.75	726.4	3.5	883.8	770.9	341.08	2005.6	0.011
2.25	762.5	3.5	919.5	806.6	323.38	2003.8	0.011
2.75	862.1	3.3	1061.7	948.8	303.71	2001.8	0.011
3.25	846.5	3.3	1000.4	887.5	283.59	1999.6	0.011
3.75	656.5	3.5	766.8	653.9	258.59	1996.7	0.011
4.25	592.8	3.7	717.9	605.0	238.42	1994.1	0.011
5	418.9	3.7	478.0	365.1	224.08	1992.1	0.012
6	337.2	4.3	377.9	265.0	196.74	1987.9	0.014
7	240.2	4.8	259.6	146.7	173.24	1983.8	0.017
8	201.6	2.4	214.0	101.1	153.44	1979.9	0.020
9	193.6	2.5	205.1	92.2	135.54	1975.9	0.022
10.5	175.6	2.5	184.0	71.1	118.61	1971.6	0.027
12.5	145.3	2.8	153.0	40.1	86.76	1961.6	0.031
14.5	141.7	2.8	147.9	35.0	70.21	1954.8	0.035
16.5	131.0	3.0	137.0	24.1	53.00	1945.8	0.037
18.5	135.7	2.9	141.7	28.8	41.64	1938.0	0.037
20.5	125.4	3.0	130.6	17.7	27.71	1924.9	0.038
22.5	127.3	2.8	132.5	19.6	18.61	1912.2	0.034
24.5	123.0	2.9	127.7	14.8	8.26	1886.1	
26.5	108.6	3.1	112.9	0.0	0.00		
29.5	124.3	3.0	129.4				
33	113.6	5.4	118.7				
35	119.3	5.8	124.6				
36	128.0	5.5	133.7				
37	130.0	5.4	135.4				
38	136.9	5.1	142.7				
39	111.9	5.6	116.6				

Sediment lead-210 measurements and calculation of ^{210}Pb-based age models for site LD1.

Sample mid-depth (cm)	Observed ^{210}Pb activity (mBq g^{-1})	SE for Observed ^{210}Pb activity (%)	Observed ^{210}Pb activity (mBq g^{-1}, salt corr.)	Background (mean of ^{214}Pb and ^{214}Bi)	Excess ^{210}Pb activity (mBq g^{-1}, salt corr.)	Cumulative excess ^{210}Pb activity (mBq g^{-2}, salt corr.)	Year (CRS model)	Mass accumulation rate (g cm^{-2} yr^{-1}, CRS model)
0.25	764	4.4	1195.2	178.4	1016.8	1265.95	2011.5	0.0385
0.75	722	4.8	784.3	296.5	487.9	1250.97	2011.1	0.0524
1.25	441	6.5	600.8	310.5	290.3	1243.43	2010.9	0.0694
1.75	611	5.3	632.5	292.7	339.9	1237.49	2010.8	0.0797
2.5	279	7.8	665.7	428.5	237.2	1228.76	2010.5	0.1023
3.5	333	7	793.1	527.3	265.8	1214.62	2010.2	0.1111
4.5	641	5.2	618.9	403.7	215.2	1200.11	2009.8	0.1187
5.5	578	5.3	826.7	405.2	421.6	1191.13	2009.5	0.1129
6.5	535	5.6	743.6	391.1	352.5	1174.59	2009.1	0.1113
7.5	3728	2.2	673.7	360.0	313.7	1158.29	2008.6	0.1117
8.5	1366	3.5	736.7	329.7	407.0	1141.13	2008.2	0.1073
9.5	1539	3.2	806.8	397.5	409.3	1116.19	2007.5	0.1031
11	1228	3.7	606.3	363.6	242.8	1086.28	2006.6	0.1096
13	1603	3.1	870.2	275.6	594.6	1047.67	2005.4	0.0917
15	2420	2.5	819.6	387.8	431.9	960.70	2002.6	0.0868
17	784	4.5	664.4	430.2	234.3	898.47	2000.5	0.0920
19	872	4.2	743.9	286.9	457.0	832.34	1998.0	0.0807
21	616	5	726.2	300.8	425.4	704.90	1992.7	0.0725
23	886	4.2	777.0	436.4	340.6	584.30	1986.7	0.0682
25	699	4.6	841.1	496.4	344.6	490.93	1981.1	0.0630
27	569	5.6	452.9	184.9	268.0	395.96	1974.2	0.0586
29	347	7.5	376.0	157.6	218.4	300.92	1965.4	0.0550
32	337	8.1	258.3	139.7	118.7	225.04	1956.0	0.0526
36	189	11	192.5	99.1	93.4	128.84	1938.1	0.0498