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Particulate barium tracing of significant mesopelagic carbon remineralisation in the North Atlantic

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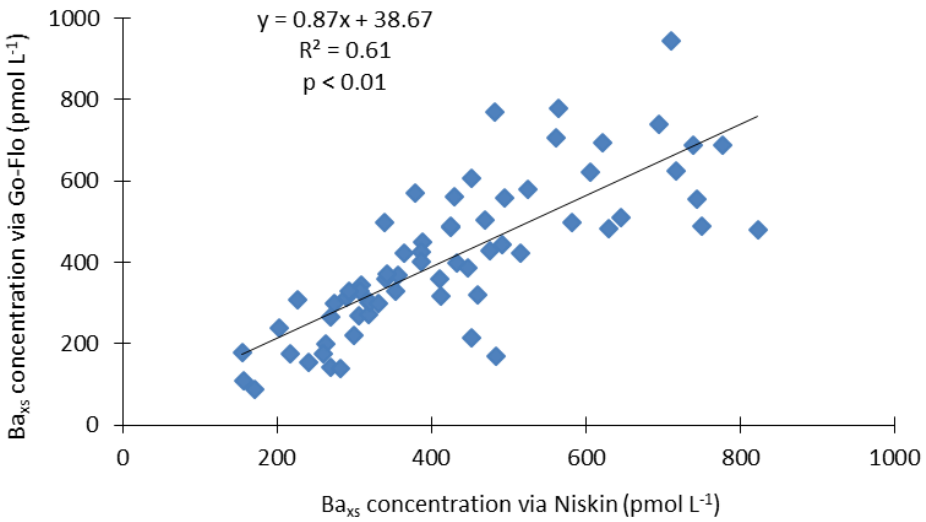

<u>Figure S1:</u> Comparison between the Ba_{xs} concentrations obtained on samples collected by two different sampling and analytical methods (Niskin, 0.40 µm polycarbonate filters; and Go-Flo systems, paired 0.45 µm polyethersulfone and 5 µm mixed ester cellulose filters, see Gourain et al., 2018; this issue) for the 100-1000 m layer. See text for details.

<u>Table S1:</u> Particulate biogenic barium (Ba_{xs}; in pmol L^{-1}) during GEOVIDE, obtained on samples collected from Niskin bottles. The apparent oxygen utilisation (AOU; in µmol kg^{-1}) and the water mass age (in years) are also indicated.

Station 1 (40.3 °N/-10.0 °E)					Station 13 (41.4°N/-13.9°E)					Station 21 (46.5°N/-19.7°E)				
Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)	Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)	Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)
20	126	±	19			20	239	±	53			10	207	±	36		
40	195	±	13			40	218	±	38			20	566	±	113		
60	214	±	17			60	177	±	42			40	276	±	45		
79	363	±	35			78	242	±	48			60	181	±	35		
98	412	±	80	19	6.4	100	274	±	50	10	3.1	76	483	±	79		
119	291	±	67			120	306	±	50			100	453	±	73	14	2.1
139	288	±	64			140	379	±	71			120	467	±	66		
160	241	±	54	22	6.6	160	449	±	70			140	502	±	74	14	1.6
200	340	±	88	30	8.6	200	425	±	64	14	2.9	160	338	±	56		
249	470	±	111			250	496	±	87			200	340	±	51	15	2.7
299	310	±	101	43	16	300	582	±	90	31	9.0	300	491	±	76	17	4.8
399	263	±	70	54	25	400	961	±	147	17	4.6	400	379	±	57	34	13
499	286	±	86	72	37	500	357	±	62	34	13	500	524	±	91	17	7.6
597	483	±	103	79	43	600	319	±	61	51	22	600	424	±	69	25	12
702	156	±	95	81	47	700	305	±	54	79	38	700	364	±	59	79	38
800	159	±	62	82	50	800	259	±	51	89	48	800	308	±	48	94	49
1000	171	±	62	83	58	1000	270	±	49	88	59	1000	318	±	62	85	52
1505	157	±	62			1501	172	±	43	69	0.5	1200	212	±	40		

Station 26 (50.3°N/-22.6°E)					Station 32 (55.5°N/-26.7°E)					Station 38 (58.8°N/-31.3°E)				
Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)	Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)	Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)
20	1018	±	185			10	86	±	16			10	185	±	24		
50	1888	±	314			20	170	±	26			20	84	±	7		
75	378	±	54			40	105	±	20			40	159	±	28		
99	174	±	29	13	5.0	60	112	±	21			60	103	±	18		
200	451	±	64	14	8.9	80	119	±	20			80	169	±	29		
400	433	±	63	46	26	100	155	±	26	-0.1	2.3	100	227	±	37	16	14
599	388	±	60	77	42	120	308	±	49			120	346	±	51		
800	396	±	61			140	294	±	51	13	10	140	472	±	68	17	14
1000	320	±	47	49	28	161	480	±	80			160	599	±	106		
						200	646	±	93	13	10	180	590	±	100		
						300	566	±	93	34	20	200	565	±	87	15	13
						380	489	±	79	33	19	300	711	±	106	16	13
						450	644	±	111	78	37	400	621	±	95	16	12
						500	386	±	58	71	35	500	388	±	65	41	23
						598	342	±	51	63	32	600	496	±	80		
						700	293	±	50	56	28	700	644	±	103	62	32
						800	354	±	54	47	25	800	241	±	54	57	31
						1000	269	±	46	40	22	1000	202	±	48	48	29

Station 44 (59.6°N/-38.9°E)						Station 51 (59.8°N/-42.0°E)						Station 53 (59.9°N/-43.01°E)					
Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)	Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)	Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)
10	116	±	14			10	127	±	25			10	295	±	122		
20	90	±	7			19	61	±	8			20	203	±	133		
40	292	±	48			40	180	±	36			40	137	±	80		
60	293	±	46			60	194	±	37			60	98	±	75		
80	298	±	45			80	266	±	49			80	100	±	98		
100	464	±	68	18	11	100	300	±	54	5.6	6.1	100	218	±	114		
120	431	±	64			120	307	±	58			120	284	±	113		
140	501	±	83	19	12	140	316	±	59	15	8.7	140	129	±	143		
160	605	±	91			160	359	±	69								
200	695	±	104	18	11	180	251	±	55								
300	739	±	116	18	13	200	383	±	72	18	10						
400	747	±	111	19	12	300	495	±	84	22	12						
500	653	±	106	20	13	400	445	±	78	29	13						
600	483	±	83	24	15	500	299	±	65	38	17						
700	823	±	134	25	15	600	278	±	46								
800	632	±	89	22	14	700	275	±	47								
1100	284	±	54	40	24	800	225	±	47	40	17						
1401	298	±	52			1000	199	±	34	38	27						

Station 64 (59.1°N/-46.1°E)						Station 69 (55.8°N/-48.1°E)						Station 77 (53.0°N/-51.1°E)					
Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)	Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)	Depth (m)	Ba_{xs} (pmol L^{-1})			AOU (µmol kg^{-1})	Water mass age (years)
10	61	±	13			11	58	±	13			10	104	±	6		
20	143	±	32			20	148	±	11			20	113	±	9		
40	99	±	22			41	178	±	40			39	170	±	16		
60	97	±	22			60	198	±	46			60	316	±	57		
80	112	±	23			80	358	±	72			80	374	±	63		
100	282	±	47	10	7.3	100	459	±	89	20	13	100	411	±	71	6.8	7.8
120	432	±	77			120	505	±	96			120	381	±	68		
140	506	±	86	17	9.0	140	550	±	102	22	14	140	369	±	61	11	9.6
160	458	±	91			160	525	±	91			160	418	±	84		
199	447	±	89	19	10	200	619	±	97	20	13	200	493	±	87	15	11
300	500	±	104	19	12	300	768	±	121	23	13	300	503	±	75	17	12
400	332	±	82	20	12	400	682	±	119	22	14	401	470	±	80	23	13
500	717	±	115	18	10	502	778	±	123	23	13	500	509	±	86	23	16
600	696	±	100			601	831	±	135	23	15	601	445	±	73	24	14
700	516	±	83	22	13	700	863	±	135			700	561	±	88	24	15
800	750	±	121	19	11	802	744	±	113	23	15	800	575	±	101	26	16
900	630	±	108	22	14	900	663	±	111			901	583	±	93	25	15
1000	580	±	98	25	15	1001	741	±	119	24	16	1002	475	±	70	25	15
						1500	535	±	91								