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The silicon stable isotope distribution along the GEOVIDE section (GEOTRACES GA-01) of the North Atlantic Ocean

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Supplementary Table S1. Nutrient data analysed for the GEOVIDE transect relevant to this study. All nutrient data are concentrations (μM) and pressure was measured as decibars (equivalent to meters below surface). Note: concentration of dissolved silicon (DSi) recorded in this table was collected from a different cast than the samples collected for analysis of $\delta^{30}Si_{DSi}$. The $\delta^{30}Si_{DSi}$ samples were analysed independently for DSi (see table S2). Si* = DSi – NO_3.

Station	Cast	Bottle	Pressure	NO_3	NO_2	DSi	Si*
1	1	24	2.6	0.04	0.00	0.90	0.86
1	1	23	16.2	0.03	0.00	0.87	0.84
1	1	22	36.7	0.90	0.00	0.55	-0.35
1	1	21	59.8	4.23	0.00	1.09	-3.14
1	1	20	99.3	5.60	0.00	1.88	-3.72
1	1	19	149.2	6.31	0.00	2.17	-4.14
1	1	18	201.2	7.30	0.00	2.72	-4.57
1	1	17	299.8	9.26	0.00	3.58	-5.68
1	1	16	401.9	10.75	0.00	4.69	-6.06
1	1	15	500.6	12.36	0.00	6.34	-6.03
1	1	14	600.4	12.81	0.00	7.28	-5.53
1	1	13	700.6	12.55	0.00	7.42	-5.12
1	1	12	799.5	12.60	0.00	7.95	-4.65
1	1	11	900.9	12.81	0.00	8.45	-4.37
1	1	10	1000.8	12.96	0.00	8.81	-4.15
1	1	9	1200.6	13.31	0.00	9.67	-3.64
1	1	8	1400.5	13.94	0.00	11.02	-2.92
1	1	7	1600.3	14.53	0.00	13.20	-1.33
1	1	6	1799.5	14.93	0.00	15.19	0.26
1	1	5	2001	15.34	0.00	18.87	3.53
1	1	4	2499.6	16.46	0.00	28.61	12.15
1	1	3	3000.4	17.21	0.00	36.05	18.84
1	1	2	3250.3	17.55	0.00	39.21	21.66
1	1	1	3580.6	17.82	0.00	41.72	23.89
13	1	24	4.2	0.05	0.01	0.53	0.48
13	1	23	29.7	0.65	0.06	0.67	0.03
13	1	22	49.1	2.70	0.30	0.95	-1.75
13	1	21	99.9	6.32	0.02	1.83	-4.49
13	1	20	200.6	7.30	0.02	2.26	-5.04
13	1	19	299.9	9.57	0.01	3.10	-6.47
13	1	18	399.7	9.01	0.02	2.96	-6.05
13	1	17	498.7	10.82	0.00	3.70	-7.11
13	1	16	599.8	12.93	0.01	5.04	-7.89
13	1	15	700.2	16.09	0.01	7.52	-8.57
13	1	14	798.6	17.08	0.00	8.69	-8.40

13	1	13	1000	17.57	0.00	10.32	-7.25
13	1	12	1250.5	16.76	0.00	10.65	-6.11
13	1	11	1499.8	17.29	0.00	11.88	-5.41
13	1	10	1749.7	17.52	0.00	13.08	-4.43
13	1	9	1999.9	17.78	0.00	16.33	-1.46
13	1	8	2250.1	18.34	0.00	20.19	1.85
13	1	7	2499.4	18.75	0.00	23.83	5.08
13	1	6	3000.2	19.96	0.00	33.31	13.35
13	1	5	3498.4	20.73	0.00	39.11	18.37
13	1	4	4000.8	21.38	0.00	43.43	22.05
13	1	3	4499.1	21.62	0.00	45.81	24.20
13	1	2	4998.9	21.72	0.00	46.51	24.79
13	1	1	5439.5	21.70	0.00	47.00	25.31
21	1	24	2.4	0.80	0.09	0.40	-0.40
21	1	23	39.4	4.06	0.15	1.62	-2.44
21	1	22	100.2	8.00	0.04	2.89	-5.11
21	1	21	149.7	8.65	0.01	3.22	-5.42
21	1	20	197.4	9.10	0.01	3.39	-5.71
21	1	19	300.1	9.45	0.01	3.60	-5.85
21	1	18	398.2	11.49	0.01	4.54	-6.96
21	1	17	500	10.57	0.00	4.07	-6.50
21	1	16	600.3	11.30	0.01	4.59	-6.71
21	1	15	699	16.19	0.00	8.03	-8.16
21	1	14	799.8	0.01			
21	1	13	800	18.11	0.00	10.05	-8.06
21	1	12	1000.4	17.88	0.00	10.77	-7.11
21	1	11	1250.6	17.49	0.00	11.01	-6.49
21	1	10	1499.9	17.16	0.00	10.93	-6.23
21	1	9	1749.6	17.07	0.00	11.44	-5.63
21	1	8	2000.2	17.07	0.00	12.17	-4.89
21	1	7	2300.2	17.00	0.00	13.34	-3.67
21	1	6	2499.6	17.22	0.00	15.92	-1.30
21	1	5	2999.4	18.01	0.00	23.76	5.75
21	1	4	3499.4	20.25	0.00	37.02	16.77
21	1	3	3998.9	21.22	0.00	43.11	21.89
21	1	2	4500.4	21.31	0.00	43.68	22.36
21	1	1	4607.2	21.64	-0.01	45.61	23.97
26	1	24	4.2	5.60	0.53	1.13	-4.47
26	1	23	34.6	5.87	0.55	1.19	-4.67
26	1	22	99.9	10.72		4.03	
26	1	21	149.5	12.01		5.13	

26	1	20	199.5	12.52	0.06	5.90	-6.62
26	1	19	300	12.99	0.02	6.47	-6.52
26	1	18	400.3	15.46	0.02	8.43	-7.03
26	1	17	500.8	18.37	0.01	11.26	-7.12
26	1	16	600.3	18.07	0.01	11.14	-6.93
26	1	15	750.3	17.16	0.01	10.75	-6.41
26	1	14	899.3	16.88	0.00	10.47	-6.41
26	1	13	999	16.67	0.00	10.11	-6.56
26	1	12	1199.5	16.48	0.00		
26	1	11	1400.4	16.44	0.00	10.56	-5.89
26	1	10	1599.7	16.51	0.00	11.06	-5.44
26	1	9	1800.2	16.50	0.00	11.72	-4.77
26	1	8	1998.4	16.44	0.00	12.29	-4.15
26	1	7	2299.9	16.23	0.00	13.14	-3.09
26	1	6	2498.9	16.25	0.00	14.65	-1.60
26	1	5	2749.2	16.47	0.00	17.54	1.07
26	1	4	2999	17.24	0.00	23.13	5.90
26	1	3	3250.5	18.37	0.00	29.41	11.04
26	1	2	3499.5	19.06	0.00	33.42	14.36
26	1	1	4191.8	20.84	0.00	43.86	23.03
32	1	24	15.7	6.74	0.15	1.07	-5.67
32	1	23	30.5	8.79	0.27	2.21	-6.57
32	1	22	100.1	9.51	0.67	1.95	-7.56
32	1	21	150.9	12.88	0.08	5.42	-7.46
32	1	20	200.6	12.94	0.03	5.85	-7.09
32	1	19	299.8	14.43	0.02	7.54	-6.89
32	1	18	378.2	15.40	0.02	8.43	-6.97
32	1	17	450.1	17.80	0.01	10.65	-7.15
32	1	16	501	17.72	0.01	10.76	-6.96
32	1	15	600.1	16.44	0.00	10.41	-6.02
32	1	14	700.4	16.30	0.00	10.32	-5.98
32	1	13	801.1	16.44	0.00	9.76	-6.68
32	1	12	899.1	16.51	-0.01	9.88	-6.63
32	1	11	999.5	15.88	-0.01	9.64	-6.24
32	1	10	1199.5	15.69	0.00	9.77	-5.92
32	1	9	1399	15.81	-0.01	10.50	-5.32
32	1	8	1549.3	16.50	0.00	10.89	-5.61
32	1	7	1700	16.49	0.00	11.27	-5.23
32	1	6	2000.1	16.37	0.00	11.93	-4.44
32	1	5	2250	16.33	0.00	13.25	-3.08
32	1	4	2499.8	16.25	0.00	14.47	-1.77

32	1	3	2799.2	16.50	-0.01	18.31	1.81
32	1	2	2999.8	16.96	0.00	22.27	5.31
32	1	1	3273.2	17.22	0.00	25.07	7.85
44	1	24	10.2	9.39	0.11	7.75	-1.64
44	1	23	25.5	15.33	0.05	8.10	-7.23
44	1	22	98.9	15.32	0.04	7.99	-7.32
44	1	21	149.6	15.26	0.03	7.97	-7.29
44	1	20	200.6	15.32	0.02	8.19	-7.13
44	1	19	300.6	15.17	0.01	8.06	-7.10
44	1	18	399.4	15.27	0.01	8.21	-7.06
44	1	17	499.4	15.14	0.00	8.34	-6.80
44	1	16	600.3	15.26	0.01	8.39	-6.87
44	1	15	699.3	15.25	0.01	8.37	-6.89
44	1	14	799.8	0.01		8.47	
44	1	13	900.3	15.30	0.01	9.37	-5.93
44	1	12	1000.8	15.91	0.01	9.66	-6.25
44	1	11	1100.6	15.83	0.00	10.61	-5.22
44	1	10	1401.3	16.05	0.01	11.09	-4.96
44	1	9	1600.4	16.05	0.00		
44	1	8	1800.4	15.83	0.01	11.97	-3.86
44	1	7	2000.3	15.80	0.00	12.73	-3.07
44	1	6	2249.4	15.72	0.00	13.63	-2.09
44	1	5	2501	15.66	0.00	13.67	-1.99
44	1	4	2600.5	13.15	0.00	7.62	-5.53
44	1	3	2800.2	12.82	0.00	7.27	-5.56
44	1	2	2900.1	12.86	0.00	7.40	-5.46
44	1	1	2965.5	8.87	0.10	7.36	-1.51
60	3	24	4.6	7.67	0.11	4.29	-3.38
60	3	23	20.3				
60	3	22	50.4				
60	3	21	50.5	10.58	0.20	5.12	-5.47
60	3	20	100	13.27	0.27	6.89	-6.38
60	3	19	109.7				
60	3	18	152.2	14.20	0.13	7.41	-6.79
60	3	17	152.2				
60	3	16	252.5				
60	3	15	252.3	14.76	0.01	7.95	-6.81
60	3	14	401.4				
60	3	13	500.1	15.28	0.01	8.49	-6.79
60	3	12	751.6				
60	3	11	800.7	15.34	0.00	9.01	-6.33

60	3	10	999.5	15.58	0.00	9.71	
60	3	9	999.4				
60	3	8	1201.8				
60	3	7	1201.7	15.40	0.00	10.06	-5.34
60	3	6	1400.6	14.99	0.00	9.87	-5.12
60	3	5	1400.6				
60	3	4	1500.7				
60	3	3	1600.4				
60	3	2	1719.4				
60	3	1	1738.1	14.63	0.00	9.94	-4.68
64	1	24	4.6	4.70	0.12	4.47	-0.24
64	1	23	49.7	10.65	0.20	6.93	-3.71
64	1	22	99.8	14.00	0.31	7.37	-6.63
64	1	21	149.7	15.14	0.15	7.40	-7.74
64	1	20	199.7	15.51	0.08	7.64	-7.88
64	1	19	319.6	15.67	0.05	8.00	-7.67
64	1	18	399.7	16.00	0.02	8.15	-7.85
64	1	17	499.6	15.73	0.02	8.10	-7.63
64	1	16	649.3	15.99	0.00	8.41	-7.58
64	1	15	750	15.97	0.01	8.32	-7.65
64	1	14	799.7	15.89	0.00	8.25	-7.64
64	1	13	899.9	15.88	0.01	8.35	-7.53
64	1	12	999.4	16.07	0.01	8.68	-7.39
64	1	11	1199.6	16.52	0.00	9.88	-6.65
64	1	10	1399.4	16.60	0.01	10.41	-6.19
64	1	9	1598.9	16.53	0.01	10.71	-5.82
64	1	8	1799.8	16.56	0.01	11.41	-5.15
64	1	7	1999.1	16.48	0.01	12.38	-4.10
64	1	6	2249.7				
64	1	5	2249.6	16.20	0.01	13.03	-3.17
64	1	4	2401				
64	1	3	2401	15.47	0.00	11.43	-4.04
64	1	2	2502.3				
64	1	1	2502.1	15.01	0.01	10.46	-4.55
69	1	24	4.2	0.08	0.00	3.56	3.48
69	1	23	50.4	10.97	0.31	7.04	-3.94
69	1	22	99.3	14.28	0.32	7.38	-6.90
69	1	21	150	14.57	0.16	7.75	-6.82
69	1	20	200.2	14.78	0.14	7.98	-6.80
69	1	19	299.8	14.99	0.04	8.06	-6.93
69	1	18	399.9	15.19	0.02	8.12	-7.07

69	1	17	499.7	14.89	0.02	8.10	-6.78
69	1	16	600.7	14.93	0.01	8.06	-6.88
69	1	15	800.9	15.10	0.01	8.20	-6.90
69	1	14	1000.1	15.10	0.01	8.34	-6.75
69	1	13	1200.1	15.07	0.00	8.25	-6.82
69	1	12	1400.3	15.02	0.01	8.81	-6.21
69	1	11	1599.8	15.61	0.00	9.14	-6.48
69	1	10	1799.6	16.12	0.00	10.62	-5.50
69	1	9	2000	15.91	0.00	10.83	-5.08
69	1	8	2249.6	15.98	0.00	11.55	-4.42
69	1	7	2500	15.69	0.00	11.65	-4.04
69	1	6	2725.4	15.65	0.00	12.53	-3.12
69	1	5	2999	15.47	0.00	13.22	-2.25
69	1	4	3248.9	15.25	0.00	14.03	-1.22
69	1	3	3499.9	14.33	0.00	11.49	-2.84
69	1	2	3700.6	13.35	0.01	8.42	-4.93
69	1	1	3745.3	13.37	0.00	8.90	-4.47
77	1	24	3.5				
77	1	23	3.5	0.35	0.04	1.09	0.74
77	1	22	23.8	2.99	0.13	3.59	0.60
77	1	21	40.3	6.53	0.27	5.99	-0.54
77	1	20	100.2	13.58		8.05	-5.54
77	1	19	150.5	14.47		8.14	-6.33
77	1	18	200.7	14.15	0.56	8.17	-5.98
77	1	17	300.4	14.54	0.24	8.20	-6.33
77	1	16	401.6	15.08	0.03	8.40	-6.69
77	1	15	501.7	15.15	0.03	8.38	-6.78
77	1	14	600.8	15.25	0.01	8.43	-6.81
77	1	13	701	15.28	0.00	8.52	-6.76
77	1	12	801.7	15.10	0.01	8.47	-6.63
77	1	11	901.5	15.21	0.01	8.54	-6.67
77	1	10	1001.4	15.26	0.01	8.68	-6.59
77	1	9	1201.7	15.89	0.01	10.14	-5.75
77	1	8	1301.6	16.02	0.01	10.57	-5.45
77	1	7	1500.3	16.10	0.00	11.13	-4.97
77	1	6	1750.5	15.60	0.00	11.11	-4.49
77	1	5	2000.4	15.43	0.00	11.71	-3.73
77	1	4	2201.2	15.16	0.01	12.03	-3.13
77	1	3	2400.5	14.77	0.01	12.07	-2.70
77	1	2	2449.4	14.91	0.01	12.18	-2.73
77	1	1	2530.9	14.56	0.01	11.82	-2.74

Supplementary Table S2: Stable silicon isotope data ($\delta^{30}Si_{DSi}$) including; reproducibility (2SD) and number of full chemistry replicates (n), DSi concentration ([DSi]), and the inverse of [DSi] for each station and depth sampled during GEOVIDE.

Station	Latitude (°N)	Longitude (°E)	Depth (m)	[DSi] (μM)	1/[DSi] (μM^{-1})	$\delta^{30}Si_{DSi}$ (‰)	2SD	n
1	40.333	-10.036	500.6	6.8	0.148	1.45	0.16	2
1	40.333	-10.036	1000.8	9.3	0.107	1.33	0.20	2
1	40.333	-10.036	2499.6	29.1	0.034	0.95	0.16	3
1	40.333	-10.036	3000.4	36.5	0.027	0.97	0.16	3
1	40.333	-10.036	3580.6	42.3	0.024	1.17	0.16	3
13	41.383	-13.888	1000	10.8	0.041	n/a	---	---
13	41.383	-13.888	1999.9	16.7	0.060	n/a	---	---
13	41.383	-13.888	2499.4	24.2	0.041	1.22	0.16	1
13	41.383	-13.888	3000.2	33.6	0.030	0.96	0.16	3
13	41.383	-13.888	4000.8	43.8	0.023	1.1	0.16	2
13	41.383	-13.888	4998.9	46.6	0.021	0.98	0.16	3
21	46.544	-19.672	500	11.1	0.090	n/a	---	---
21	46.544	-19.672	1000.4	11.1	0.090	n/a	---	---
21	46.544	-19.672	2000.2	12.6	0.079	n/a	---	---
21	46.544	-19.672	2999.4	24.1	0.041	n/a	---	---
21	46.544	-19.672	3998.9	43.3	0.023	1.17	0.16	2
21	46.544	-19.672	4500.4	43.6	0.023	1.31	0.16	2
26	50.278	-22.602	500.8	11.7	0.086	2.85	0.16	3
26	50.278	-22.602	999	10.6	0.094	2.26	0.16	3
26	50.278	-22.602	1400.4	11.1	0.090	1.72	0.16	3
26	50.278	-22.602	1998.4	12.8	0.078	1.74	0.20	2
26	50.278	-22.602	2999	23.2	0.043	n/a	---	---
26	50.278	-22.602	3499.5	44.3	0.023	1.07	0.16	1
32	55.506	-26.710	501	11.1	0.090	n/a	---	---
32	55.506	-26.710	999.5	10.1	0.099	n/a	---	---
32	55.506	-26.710	1399	10.9	0.092	1.86	0.16	2
32	55.506	-26.710	2000.1	12.4	0.080	1.74	0.16	2
32	55.506	-26.710	2499.8	14.8	0.067	1.55	0.16	3
32	55.506	-26.710	2999.8	22.4	0.045	1.52	0.16	3
44	59.623	-38.954	499.4	8.8	0.114	2.29	0.16	2
44	59.623	-38.954	1000.8	10.2	0.098	1.59	0.26	3
44	59.623	-38.954	1401.3	11.6	0.086	1.49	0.16	2
44	59.623	-38.954	2000.3	13.4	0.075	1.59	0.16	2
44	59.623	-38.954	2501	14.2	0.070	1.4	0.16	4
44	59.623	-38.954	2900.1	8.0	0.125	1.24	0.16	3

Supplementary Table S2 (continued).

Station	Latitude	Longitude	Depth	[DSi]	1/[DSi]	$\delta^{30}Si_{DSi}$	2SD	n
	(°N)	(°E)	(m)	(μM)	(μM^{-1})	(‰)		
60	59.799	-42.003	500.1	8.9	0.112	n/a	---	---
60	59.799	-42.003	999.4	10.2	0.098	2.74	0.16	3
60	59.799	-42.003	1400.6	10.3	0.097	1.73	0.16	2
60	59.799	-42.003	1719.4	10.5	0.095	1.41	0.16	1
64	59.068	-46.083	499.6	8.5	0.117	2.01	0.18	2
64	59.068	-46.083	999.4	9.0	0.111	2.13	0.16	2
64	59.068	-46.083	1399.4	10.8	0.093	1.45	0.26	3
64	59.068	-46.083	1799.8	11.9	0.084	1.6	0.16	2
64	59.068	-46.083	1999.1	12.8	0.078	1.36	0.16	2
64	59.068	-46.083	2249.6	13.4	0.075	1.35	0.16	2
69	55.842	-48.093	499.7	8.6	0.116	n/a	---	---
69	55.842	-48.093	1000.1	8.8	0.113	1.56	0.16	2
69	55.842	-48.093	1400.3	9.1	0.110	1.43	0.16	2
69	55.842	-48.093	2000	11.4	0.088	1.55	0.16	3
69	55.842	-48.093	2999	13.8	0.072	1.53	0.16	2
69	55.842	-48.093	3499.9	12.0	0.084	1.55	0.16	2
77	53	-51.100	501.7	8.8	0.114	1.89	0.16	3
77	53	-51.100	1001.4	9.2	0.108	1.91	0.16	2
77	53	-51.100	1500.3	11.6	0.086	1.52	0.16	2
77	53	-51.100	2000.4	12.2	0.082	1.38	0.16	2
77	53	-51.100	2530.9	12.2	0.082	1.28	0.16	2

Supplementary Table S3. Table 1 from García-Ibáñez, (2018) describes the: "properties characterizing the source water types (SWTs[a]) considered in this study with their corresponding standard deviations[b]. The square of correlation coefficients (R^2) between the observed and estimated properties are also given, together with the standard deviation of the residuals (SDR) and the SDR ε ratios from the data below 400 dbar. The ε (standard deviation of the water sample properties) used to compute the SDR ε ratios are listed in Table S1" from García-Ibáñez, (2018). "The last column accounts for the uncertainties in the SWT contributions." Please note that in this manuscript, the following changes to the water mass abbreviations have been made (**Sutton et al**. = García-Ibáñez et al. (2018)): (**NACW** = $ENACW_{16}$ + $ENACW_{12}$ + $SPMW_8$; **IcSPMW** = $SPMW_7$; **SAIW** = $SAIW_6$ + $SAIW_4$; **NEADW** = ISOW; **LDW** = $NEADW_L$).

		S	$O_2{}^0$	$Si(OH4)^0$	$NO_3{}^0$	Uncertainty
	(°C)		($\mu mol\,kg^{-1}$)	($\mu mol\,kg^{-1}$)	($\mu mol\,kg^{-1}$)	
$ENACW_{16}$	16.0 ± 0.6	36.20 ± 0.06	246 ± 7	1.87 ± 0.12	0.00 ± 0.15	9 %
$ENACW_{12}$	12.3 ± 0.6	35.66 ± 0.06	251 ± 8	1.3 ± 0.9	8.0 ± 1.1	10 %
$SPMW_8$	8.0 ± 0.6	35.23 ± 0.06	289 ± 9	2.7 ± 1.9	11.4 ± 1.3	11 %
$SPMW_7$	7.1 ± 0.6	35.16 ± 0.06	280 ± 8	5.20 ± 0.15	12.83 ± 0.15	6 %
IrSPMW	5.0 ± 0.6	35.01 ± 0.06	310 ± 9	5.9 ± 0.4	14.1 ± 0.4	12 %
LSW	3.40 ± 0.4	34.86 ± 0.01	307 ± 9	6.9 ± 0.7	14.8 ± 0.7	10 %
$SAIW_6$	6.0 ± 0.5	34.70 ± 0.03	297 ± 9	6.0 ± 2.4	13.3 ± 1.2	9 %
$SAIW_4$	4.5 ± 0.5	34.80 ± 0.03	290 ± 9	0.0 ± 2.4	0.0 ± 1.2	3 %
MW	11.7 ± 0.2	36.50 ± 0.07	190 ± 6	6.30 ± 0.15	13.2 ± 0.2	2 %
ISOW	2.7 ± 0.1	35.00 ± 0.02	294 ± 9	11.8 ± 0.9	14.0 ± 0.6	9 %
DSOW	1.30 ± 0.2	34.905 ± 0.01	314 ± 9	7.0 ± 0.5	12.9 ± 0.8	7 %
PIW	0.0 ± 0.2	34.65 ± 0.03	320 ± 10	8.4 ± 2.5	13.4 ± 1.2	9 %
$NEADW_U$	2.5 ± 0.5	34.940 ± 0.07	274 ± 8	29.4 ± 0.6	18.1 ± 0.5	n/a[c]
$NEADW_L$	1.98 ± 0.03	34.895 ± 0.003	252 ± 8	48.0 ± 0.3	22.0 ± 0.5	3 %
R^2	0.9999	0.9984	0.9939	0.9978	0.9941	
SDR	0.009	0.005	2	0.4	0.2	
SDR/ε	2	2	2	1	1	

[a] $ENACW_{16}$ and $ENACW_{12}$ East North Atlantic Central Water of 16 and 12 °C, respectively; $SPMW_8$, $SPMW_7$ and IrSPMW Subpolar Mode Water of 8 °C, of 7 °C and of the Irminger Sea, respectively; LSW Labrador Sea Water; $SAIW_6$ and $SAIW_4$ Subarctic Intermediate Water of 6 and 4 °C, respectively; MW Mediterranean Water; ISOW Iceland–Scotland Overflow Water; DSOW Denmark Strait Overflow Water; PIW Polar Intermediate Water; and $NEADW_U$ and $NEADW_L$ North-East Atlantic Deep Water upper and lower, respectively. [b] The standard deviation of the properties of the SWTs were obtained following the method described in Text S1 in the Supplement. [c] No uncertainty is given for $NEADW_U$ since it was decomposed between MW, LSW, ISOW and $NEADW_L$ (see Sect. 2.3); n/a: not applicable.

Supplementary Table S4. Silicon isotope composition of dissolved silicon ($\delta^{30}Si_{DSi}$ measured as ‰), the corresponding dissolved silicon concentration (DSi measured in μM), and the contribution of each water mass (NACW, IcSPMW, IrSPMW, LSW, MW, NEADW, LDW, DSOW, PIW, SAIW – see text for definitions) to the relevant sample locations. The sum of all water masses present at a given sample location (Station/Depth) should equal 1. These data provide support for Fig. 5.

Station	Depth (m)	NACW	IcSPMW	IrSPMW	LSW	MW	NEADW	LDW	DSOW	PIW	SAIW	[DSi]	$\delta^{30}Si_{DSi}$
1	3580.6	0	0	0	0.038952	0.007463	0.203445	0.75006	0	0	0	42.3	1.17
1	3000.4	0	0	0	0.106571	0.024527	0.268914	0.599912	0	0	0	36.5	0.97
1	2499.6	0	0	0	0.246288	0.057153	0.28473	0.411756	0	0	0	29.1	0.95
1	1000.8	0.313436	0	0	0	0.686524	0	0	0	0	0	9.3	1.33
1	500.6	0.833195	0	0	0	0.16678	0	0	0	0	0	6.8	1.45
13	4998.9	0	0	0	0.033024	0	0.052124	0.914941	0	0	0	46.6	0.98
13	4000.8	0	0	0	0.062395	0.003465	0.113085	0.82108	0	0	0	43.8	1.1
13	3000.2	0	0	0	0.173702	0.019858	0.255779	0.550685	0	0	0	33.6	0.96
13	2499.4	0	0	0	0.36734	0.045693	0.271997	0.314996	0	0	0	24.2	1.22
21	4500.4	0	0	0	0.044274	0.001477	0.14195	0.812298	0	0	0	43.6	1.31
21	3998.9	0	0	0	0.063272	0.006308	0.129339	0.801081	0	0	0	43.3	1.17
21	2999.4	0	0	0	0.078493	0.001429	0.39329	0.526753	0	0	0	44.3	1.07
26	1998.4	0	0	0	0.659141	0.014264	0.295675	0.03091	0	0	0	12.8	1.74
26	1400.4	0.040175	0	0	0.881685	0.028077	0.020767	0.029279	0	0	0	11.1	1.72
26	999	0.189902	0	0	0.760141	0.018501	0.013048	0.018396	0	0	0	10.6	2.26
26	500.8	0.600071	0	0	0.04495	0	0	0	0	0	0.354938	11.7	2.85
32	2999.8	0	0	0	0.087495	0	0.677843	0.234655	0	0	0	22.4	1.52
32	2499.8	0	0.007241	0	0.34474	0.00089	0.590358	0.056771	0	0	0	14.8	1.55
32	2000.1	0	0.04754	0	0.550158	0.000262	0.38531	0.016732	0	0	0	12.4	1.74
32	1399	0	0.125957	0	0.685427	0.000061	0.184672	0.003877	0	0	0	10.9	1.86
44	2900.1	0	0	0	0	0	0	0	0.857839	0.142346	0	8	1.24
44	2501	0	0	0	0.23912	0	0.684864	0	0	0.076018	0	14.2	1.4
44	2000.3	0	0.01436	0	0.439422	0.000353	0.523328	0.022535	0	0	0	13.4	1.59
44	1401.3	0	0.098256	0	0.596596	0.000123	0.297178	0.007845	0	0	0	11.6	1.49
44	1000.8	0	0.097376	0	0.80477	0.000152	0.088	0.009701	0	0	0	10.2	1.59
44	499.4	0	0	0.180387	0.805045	0	0	0	0	0	0.014592	8.8	2.29

Supplementary Table S4 (continued).

Station	Depth (m)	NACW	IcSPMW	IrSPMW	LSW	MW	NEADW	LDW	DSOW	PIW	SAIW	[DSi]	$\delta^{30}Si_{DSi}$
60	1719.4	0	0	0	0.483212	0	0.474534	0	0	0.042178	0	10.5	1.41
60	1400.6	0	0.058271	0	0.560258	0	0.381458	0	0	0	0	10.3	1.73
60	999.4	0	0	0.696124	0	0	0	0	0	0.231347	0.072465	10.2	2.74
64	2249.6	0	0	0	0.346291	0	0.415221	0	0.238539	0	0	13.4	1.35
64	1999.1	0	0	0	0.39937	0.001199	0.523566	0.076425	0	0	0	12.8	1.36
64	1799.8	0	0.001937	0	0.55828	0.000128	0.431492	0.008174	0	0	0	11.9	1.6
64	1399.4	0	0.084409	0	0.639605	0.000147	0.266471	0.009379	0	0	0	10.8	1.45
64	999.4	0	0	0.092985	0.907081	0	0	0	0	0	0	9	2.13
64	499.6	0	0	0.366187	0.621007	0	0	0	0	0	0.01289	8.5	2.01
69	3499.9	0	0	0	0.035193	0	0.536381	0	0.240755	0.187675	0	12	1.55
69	2999	0	0	0	0.22278	0	0.651777	0	0	0.125457	0	13.8	1.53
69	2000	0	0.057333	0	0.571034	0	0.371633	0	0	0	0	11.4	1.55
69	1400.3	0	0.003369	0	0.954388	0.000242	0.026603	0.015397	0	0	0	9.1	1.43
69	1000.1	0	0	0	0.987809	0.000111	0.00504	0.007106	0	0	0	8.8	1.56
77	2530.9	0	0	0	0.098633	0	0.574974	0	0.152841	0.17356	0	12.2	1.28
77	2000.4	0	0	0	0.372745	0	0.551882	0	0.011232	0.064138	0	12.2	1.38
77	1500.3	0	0.050403	0	0.580738	0	0.36886	0	0	0	0	11.6	1.52
77	1001.4	0	0.021563	0	0.916609	0.000183	0.04999	0.011659	0	0	0	9.2	1.91
77	501.7	0	0.005663	0	0.99435	0	0	0	0	0	0	8.8	1.89