

1 *Supplement of*

2 **Enhancement of the North Atlantic CO₂ sink by Arctic Waters**

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16 **Table S1. Locations and depths of stations repeated in the Irminger and Iceland Seas.**

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Station no	Latitude° N	Longitude° W	Station depth, m
Irm 1	63.835	31.200	2682
Irm 2	63.958	30.393	2500
Irm 3	64.072	29.585	2009
Irm 4	64.213	28.775	1518
Irm 5	64.333	27.950	1000
Ice 1	67.666	18.333	405
Ice 2	67.850	17.500	1100
Ice 3	68.167	16.167	1350
Ice 4	68.417	14.833	1470
LNA 3	67.250	13.567	1540
LNA 4	67.500	13.267	1725
LNA 6	68.000	12.667	1875

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20 **Table S2 Irminger Sea cruises and dates for discrete $p\text{CO}_2$ samples**

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No	Cruise number	Dates
1	B2-1993	23 02 1993
2	A4-1993	13 03 1993 -14 03 1993
3	B5-1993	14 04 1993-15 04 1993
4	A8-1993	14 05 1993-15 05 1993
5	A10-1993	26 05 1993
6	B7-1993	02 06 1993-03 06 1993
7	B8-1993	23 06 1993
8	B9-1993	07 07 1993-08 07 1993
9	A13-1993	28 07 1993-29 07 1993
10	B10-1993	25 08 1993-26 08 1993
11	B11-1993	09 09 1993
12	B13-1993	05 10 1993
13	B14-1993	19 10 1993-20 10 1993
14	B15-1993	14 11 1993
15	B1-1994	06 01 1994 -07 01 1994

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25 **Table S3 Iceland Sea cruises and dates for discrete $p\text{CO}_2$ samples**

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No	Cruise number	Dates
1	B3-1994	11 02 1994-12 02 1994
2	SO1-1994	18 03 1994
3	SO2-1994	17 04 1994-18 04 1994
4	SO3-1994	12 05 1994-13 05 1994
5	B8-1994	25 05 1994-26 05 1994
6	SO4-1994	14 06 1994-15 06 1994
7	A10-1994	23 06 1994-24 06 1994
8	A10-1994	03 07 1994
9	JH08-94	11 08 1994
10	B14-1994	16 09 1994-17 09 1994
11	B16-1994	08 10 1994
12	B17-1994	10 11 1994
13	B3-1995	06 03 1995-08 03 1995
14	B5-1995	08 04 1995-09 04 1995
15	B6-1995	29 04 1995-30 04 1995
16	B7-1995	25 05 1995-26 05 1995
17	A9-1995	27 06 1995
18	B11-1995	21 07 1995-22 07 1995
19	A11-1995	15 08 1995-16 08 1995
20	B16-1995	15 10 1995-16 10 1995
21	B17-1995	10 11 1995
22	B3-1996	12 02 1996

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29 **Table S4** Cruises with Underway $p\text{CO}_2$ measurements 2006-2007

	Cruise number	Dates
1	B4-2006	14 05 2006-31 05 2006
2	B6-2006	10 07 2006-03 08 2006
3	A11-2006	07 11 2006-01 12 2006
4	B3-2007	06 02 2007-19 02 2007
5	B6-2007	12 04 2007-26 04 2007
6	B8-2007	14 05 2007-27 05 2007

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