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*Supplement of*

## **Ammonia in the summertime Arctic marine boundary layer: sources, sinks and implications**

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1 **Supplemental**

2 Table S1. Surface ocean parameters relevant for determining surface-air NH<sub>3</sub> exchange

Date and Time (UTC)	Lat (°N)	Lon (°W)	[NH <sub>x</sub> ] (nM)	SST (°C)
2014-07-15 9:12	69.3672	64.8667	< 20	2.68
2014-07-17 21:42	74.1566	80.4861	< 20	6.18
2014-07-19 13:15	74.1084	83.4386	< 20	3.58
2014-07-19 19:21	74.0991	83.4067	< 20	3.38
2014-07-20 17:08	74.2391	91.5339	< 20	-0.54
2014-07-20 19:18	74.2339	91.4947	< 20	-0.59
2014-07-22 9:32	74.3199	94.9029	< 20	-0.15
2014-07-27 15:37	73.2906	63.6075	22	2.99
2014-07-28 17:43	73.2611	57.8854	20	5.73
2014-07-29 22:26	75.4001	61.6649	< 20	5.06
2014-07-30 18:44	76.3347	71.2126	58	3.06
2014-07-30 21:42	76.3212	71.1668	49	3.18
2014-07-25 17:00	74.4525	89.2145	380	0.82
2014-07-25 19:00	74.4114	87.6705	104	3.21
2014-07-25 21:30	74.4583	85.6265	< 20	3.16
2014-07-25 23:00	74.449	84.4133	136	4.4
2014-07-16 10:30	71.5087	70.2804	< 20	5.34
2014-07-31 15:30	76.3056	73.2270	< 20	4.5
2014-08-01 1:30	76.2675	74.5992	< 20	4.32
2014-08-01 10:30	76.3137	75.7749	< 20	4.69
2014-08-01 21:40	76.3708	77.4110	< 20	2.67
2014-08-02 17:40	78.461	73.8764	294	1.84
2014-08-02 18:20	78.5946	73.5861	310	1.11
2014-08-02 19:30	78.8293	73.0194	< 20	0.84
2014-08-02 20:20	78.9863	72.5310	44	0.87
2014-08-02 20:40	79.0496	72.3455	42	0.96
2014-08-02 21:30	79.2011	71.7628	275	0.94
2014-08-02 21:40	79.2245	71.6052	176	0.96
2014-08-02 22:30	79.3809	71.1979	< 20	2.22
2014-08-02 22:40	79.401	71.0861	58	2.13
2014-08-03 16:50	81.3601	63.9560	54	-0.59
2014-08-04 6:30	80.7955	67.3011	< 20	-0.1
2014-08-04 18:10	79.9931	69.7773	< 20	0.46
2014-08-05 8:30	79.3461	71.8578	< 20	2.68
2014-08-06 1:50	79.0015	73.2046	< 20	1.99
2014-08-06 15:50	77.3259	75.7041	20	3.63
2014-08-07 12:40	74.7331	78.3273	< 20	4.5
2014-08-07 12:50	74.7019	78.3784	26	4.65

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1 Table S2. Melt pond parameters relevant for determining surface-air NH<sub>3</sub> exchange

Date and Time (UTC)	Lat (°N)	Lon (°W)	[NH <sub>x</sub> ] (nM)	Temp (°C)	pH	Salinity
2014-07-18 18:00	73.5191	80.9863	706	1.86	7.2	5.2
2014-07-18 18:00	73.5191	80.9863	896	1.82	7.1	4.1
2014-07-21 2:00	74.2795	91.6322	779	0.42	6.7	1.3
2014-07-21 2:00	74.2795	91.6322	1042	0.31	6.7	0.4
2014-07-21 2:00	74.2795	91.6322	739	0.23	6.7	0.2
2014-07-21 18:00	74.2387	92.2041	1262	0.21	6.9	1.1
2014-07-21 18:00	74.2387	92.2041	642	0.21	6.9	0.9
2014-07-23 17:30	74.6033	94.9108	< 20	0.80	7.0	8.1
2014-07-23 17:30	74.6033	94.9108	< 20	0.23	7.0	8.5

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