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Supplement of

Ocean carbonate system variability in the North Atlantic Subpolar surface water (1993–2017)

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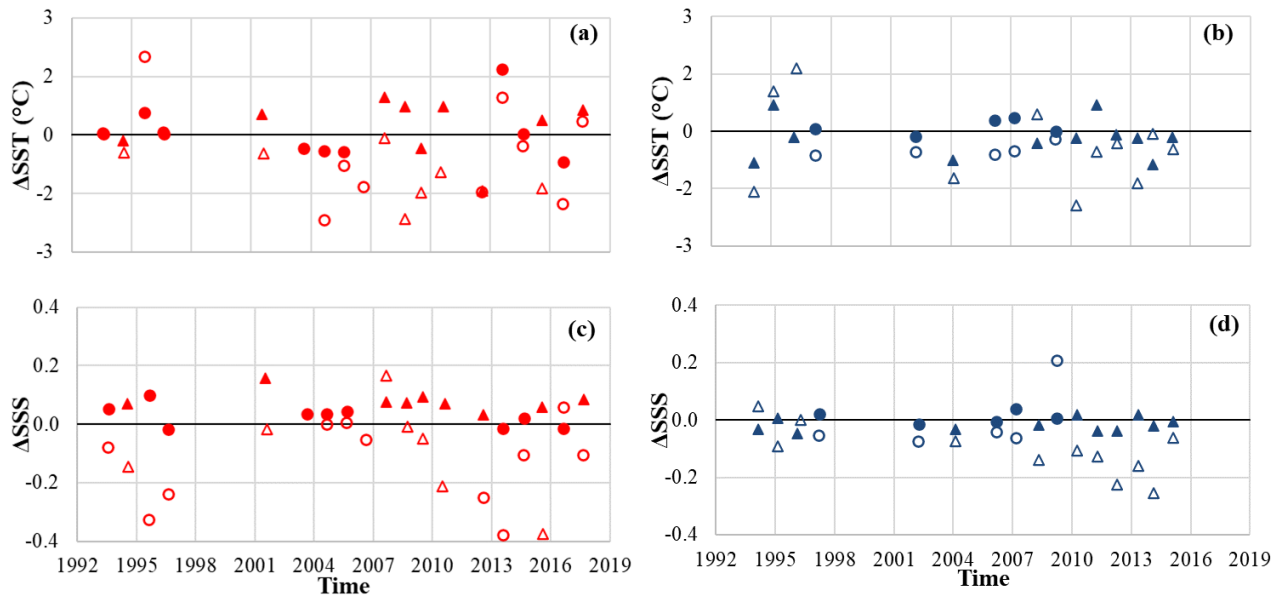


Figure S1. Difference of SST (a,b) and SSS (c,d) between Suratlant discrete data and data based on the Binned products constructed by Reverdin et al. (2018a) and updated data available at <https://doi.org/10.6096/SSS-BIN-NASG>, last access 25/03/2020. Data obtained between 1993 and 2017 during summer (in red, a-c) and 1994 and 2015 during winter (in blue, b-d) in box B (open symbols) and by combining all data in boxes C, D, E (filled symbols). Data from February and July are indicated with circles and the reconstructed data are depicted with triangles.

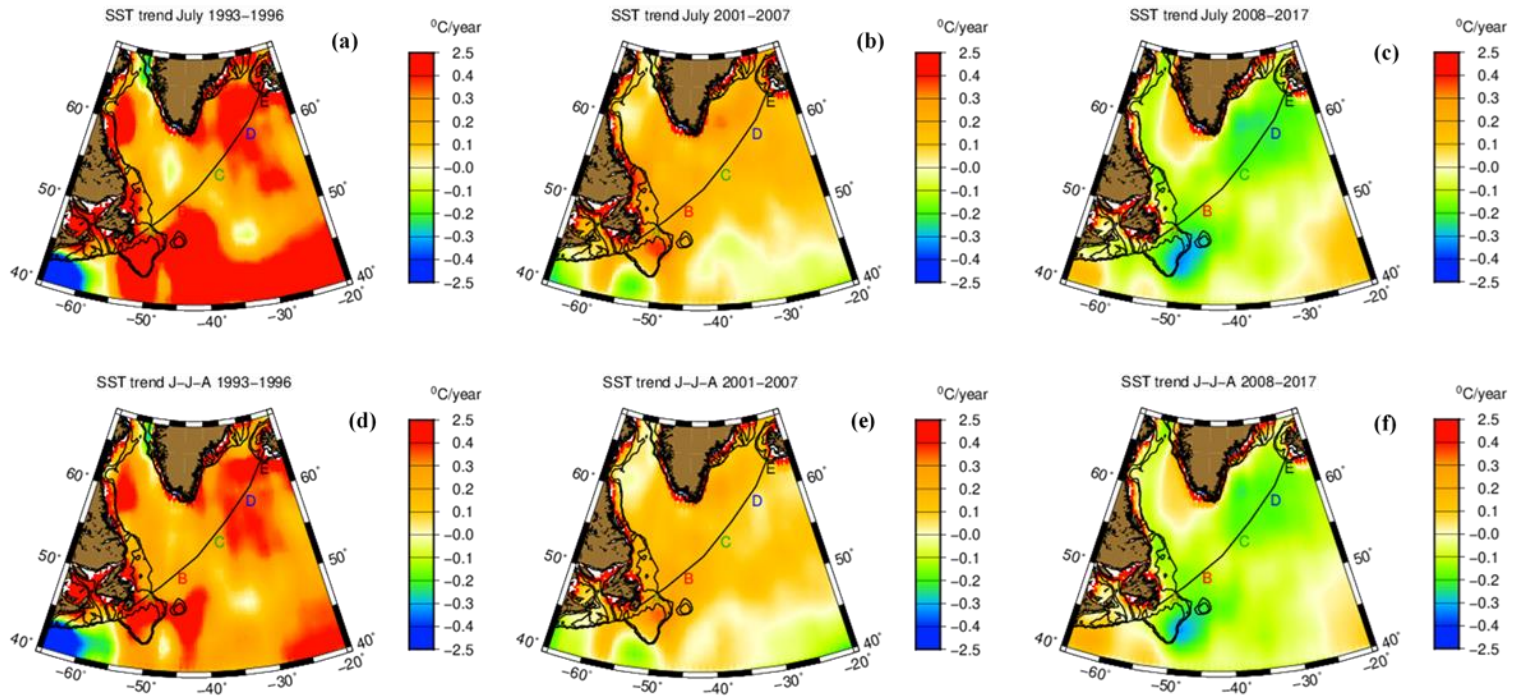


Figure S2-1. Regional SST trends maps from NOAA OI.v2 SST products available in ASCII at <http://rda.ucar.edu/datasets/ds277.0/>, last access 6/03/2020; for the three periods during summer, corresponding to July for a), b), c) and mean of June, July, August for d), e), f).

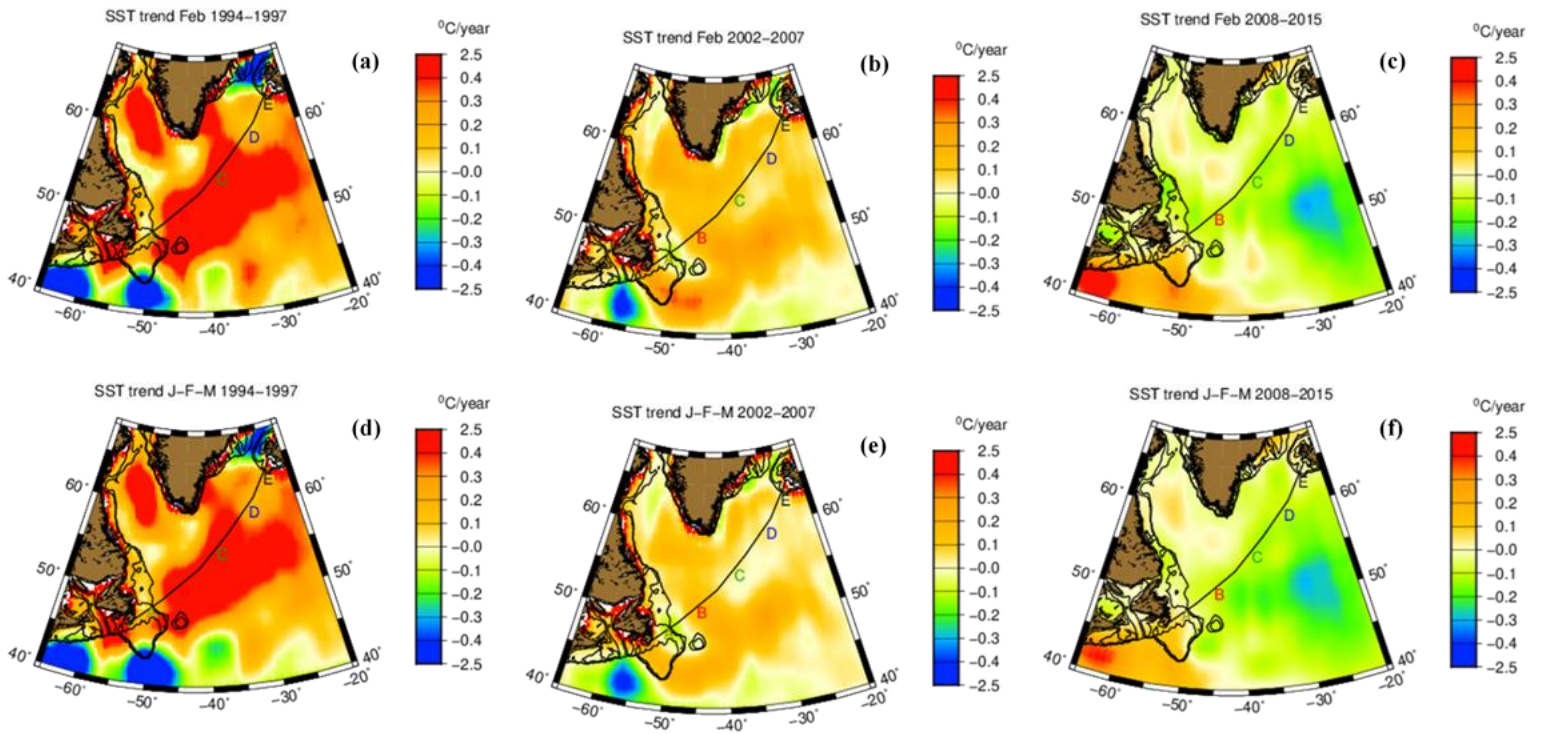


Figure S2-2. Regional SST trends maps from NOAA OI.v2 SST products available in ASCII at <http://rda.ucar.edu/datasets/ds277.0/>, last access 6/03/2020; for the three periods during winter, corresponding to February for a), b), c) and mean of January, February, March for d), e), f).

Table S1. SST and SSS trends based on Suratlant data (Table 2) and on the Binned products constructed by Reverdin et al. (2018a) available at <https://doi.org/10.6096/SSS-BIN-NASG>, last access 25/03/2020. In bold are represented the significant trends (Student test).

period	season	box	SST °C (yr ⁻¹)		SSS (yr ⁻¹)	
			Suratlant	Binned	Suratlant	Binned
1993-2017	summer	B	0.05 ± 0.00	0.01 ± 0.02	-0.003 ± 0.000	-0.003 ± 0.005
		C.D.E	0.03 ± 0.00	0.04 ± 0.02	0.003 ± 0.000	0.001 ± 0.003
	winter	B	0.02 ± 0.00	-0.02 ± 0.02	0.003 ± 0.000	-0.003 ± 0.005
		C.D.E	0.01 ± 0.00	0.01 ± 0.02	0.005 ± 0.000	0.005 ± 0.002
1993-1997	summer	B	-0.09 ± 0.02	0.16 ± 0.36	0.042 ± 0.001	-0.025 ± 0.083
		C.D.E	0.60 ± 0.01	0.77 ± 0.19	0.004 ± 0.001	-0.012 ± 0.012
	winter	B	-0.19 ± 0.02	0.15 ± 0.29	0.045 ± 0.001	0.024 ± 0.063
		C.D.E	0.00 ± 0.01	0.24 ± 0.09	-0.018 ± 0.001	0.001 ± 0.040
2001-2007	summer	B	0.04 ± 0.01	0.04 ± 0.07	-0.027 ± 0.000	-0.017 ± 0.013
		C. D. E	-0.01 ± 0.00	0.07 ± 0.08	0.013 ± 0.000	0.005 ± 0.013
	winter	B	0.04 ± 0.01	0.10 ± 0.05	-0.019 ± 0.001	-0.013 ± 0.022
		C. D. E	-0.05 ± 0.01	0.10 ± 0.07	-0.002 ± 0.000	0.013 ± 0.008
2008-2017	summer	B	-0.09 ± 0.00	0.01 ± 0.06	-0.013 ± 0.000	-0.001 ± 0.018
		C. D. E	-0.11 ± 0.00	-0.11 ± 0.06	-0.013 ± 0.000	-0.018 ± 0.008
	winter	B	0.02 ± 0.01	-0.03 ± 0.07	-0.004 ± 0.000	-0.028 ± 0.018
		C. D. E	-0.05 ± 0.00	-0.11 ± 0.05	-0.006 ± 0.000	-0.007 ± 0.005