

Salty drifts found on Argo floats DMQCed at LOPS

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Update 07/04/2020

wmo	CTD serial number	launch date	Float type	program	Drift starts at cycle:	Correction comments
6901565	5358	05/06/2014	ARVOR	GEOVIDE2014	80	Strong salty drift (-0.08 psu/yr) starting at cycle 80. Fresh jump after cycle 140, flag 4
6901567	5390	23/05/2014	ARVOR	GEOVIDE2014	40	Salty drift starting cycle 40, followed by a fresh jump around cycle 75, flag 4
6901751	5948	17/06/2015	PROVOR	RREX2015	76	Strong salty drift starting cycle 76 followed by a fresh jump around cycle 112, flag 4
6901722	6207	20/06/2015	ARVOR	RREX2015	1	Salty drift starting cycle 1 and worsening around cycle 70, flag 4
6901719	6205	22/07/2016	ARVOR	OVIDE2016	1	Strong salty drift, starting cycle 1 followed by a fresh jump after cycle 20, flag 4
6901758	6754	03/07/2015	ARVOR DEEP	RREX15	19	Small salty drift starting cycle 19. Corrected
3901956	8612	15/10/2017	ARVOR	MOCCA, BO	19	Strong salty drift starting cycle 19 followed by a fresh jump around cycle 58, flag 4
3901954	8609	09/10/2017	ARVOR	MOCCA, BO	46	Salty drift starting cycle 1 and worsening after cycle 46 (flag 4 after cycle 46 corrected before)
6902757	8905	06/07/2017	ARVOR	SOMOVAR	43	Salty drift starting cycle 43 and worsening after cycle 95 (flag 4 after cycle 95 corrected before). Pressure dependence when the drift became very large ?
6902746	8914	06/07/2017	ARVOR	SOMOVAR	85	Salty drift starting cycle 85, flag 4.

GROUP I with serial number in the range 5800-6800: **6901751** **6901722** **6901719** **6901758**
GROUP II with serial number in the range 8000-8900: **3901956** **3901954** **6902757** **6902746**

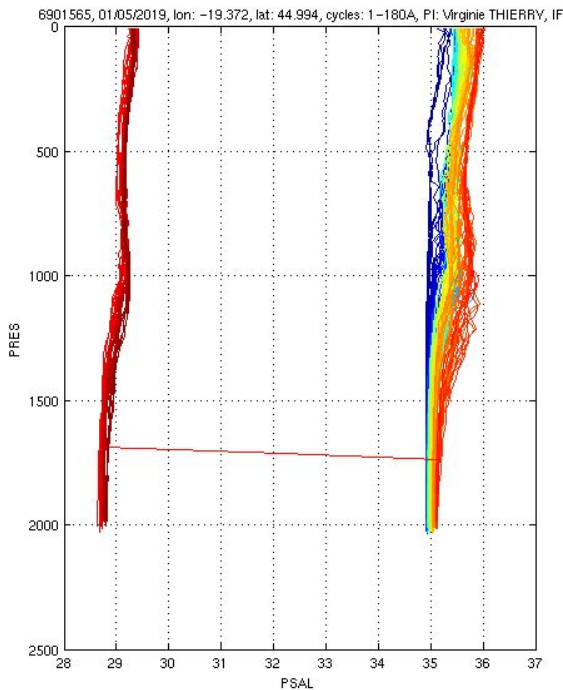
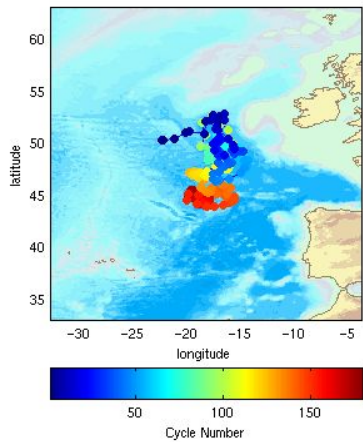
Salty drift followed by drastic fresh jump for 5 floats.

Pressure dependence ??

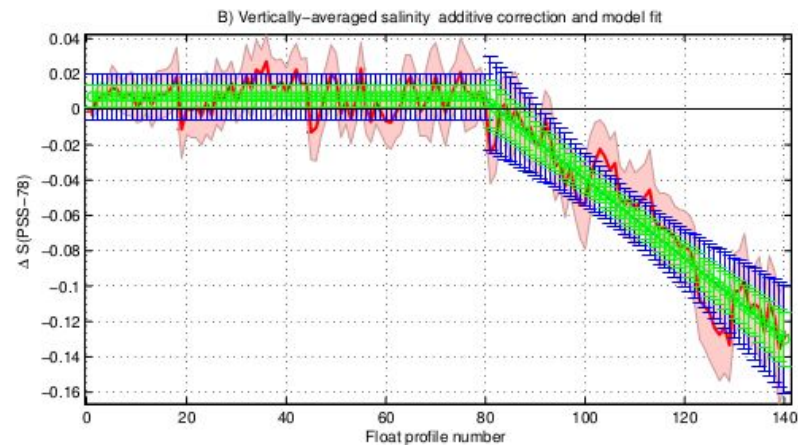
For each float, cycle by cycle correction has been computed using 2 different ranges of depth. Most often, 1500-2000m and 500-1000m.

It is difficult to get to any conclusion here because of the small number of floats and the difficulty of finding stable levels at different depths in the North Atlantic.

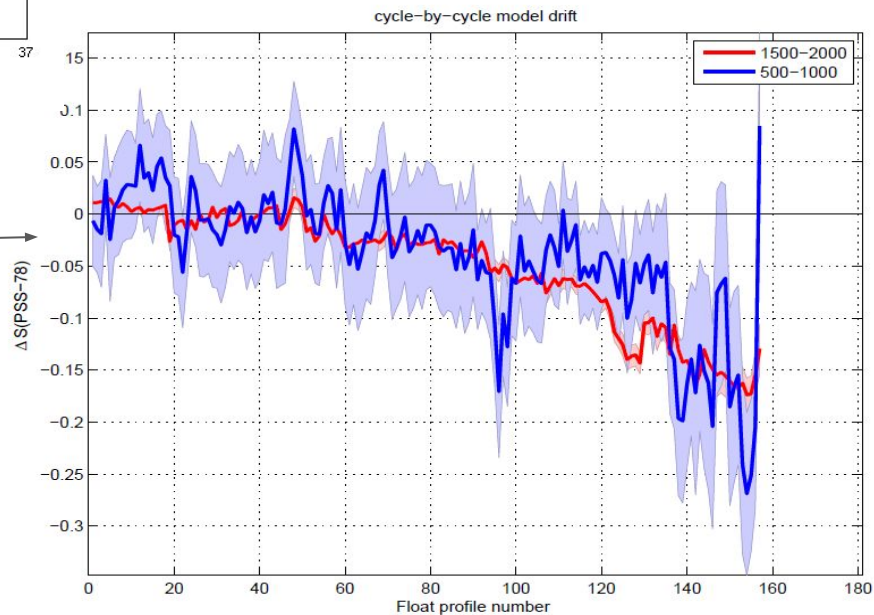
For one float (**6902757**), in the tropical Atlantic, there are fairly stable layers at 300-600m and 1500-2000m. The proposed correction seems to be larger for the 1500-2000m layer than for the 300-600m layer when the salinity sensor begins to drift strongly

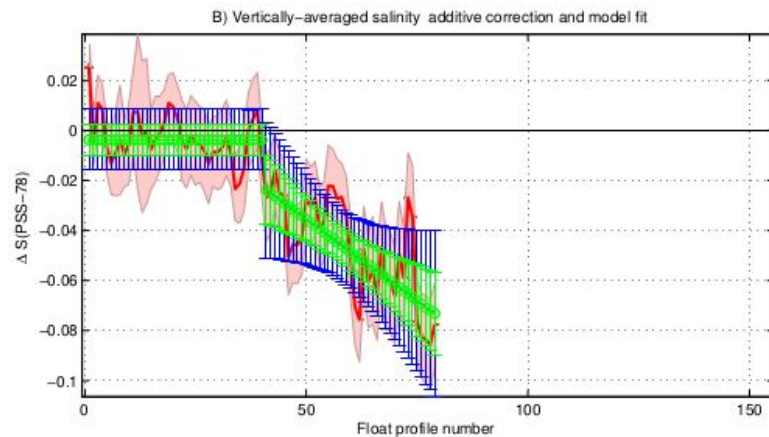
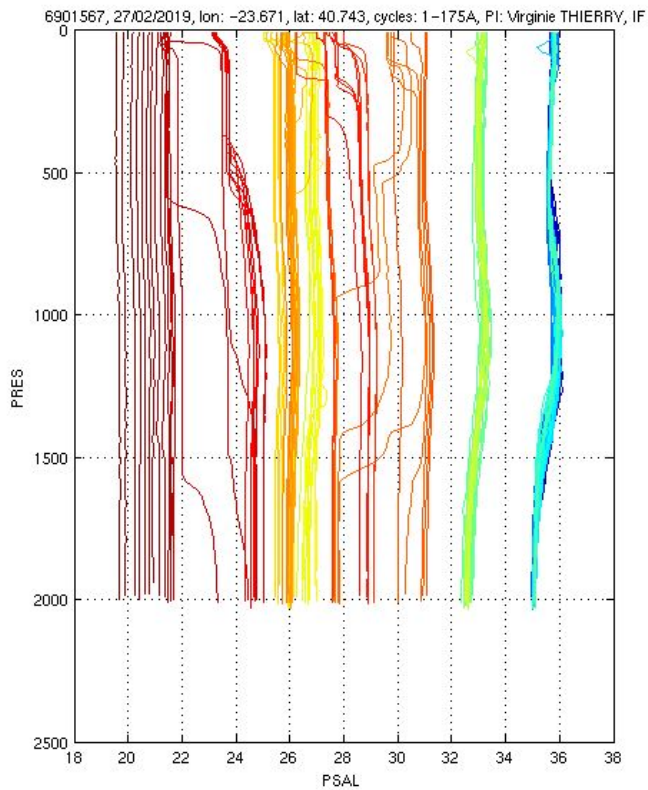
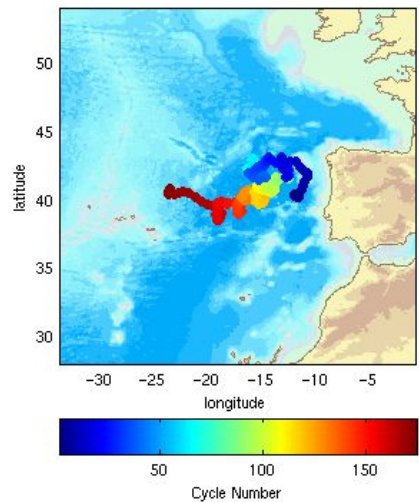


Correction proposed by OW software (negative values means that salinity is too large compared to the reference data)

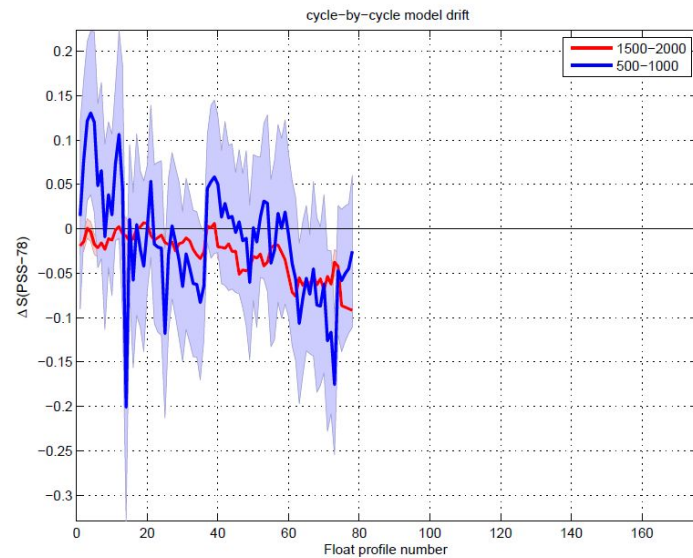


Cycle by cycle correction computed using 2 different ranges of depth. Here, 1500-2000m (in red) and 500-1000m (in blue).

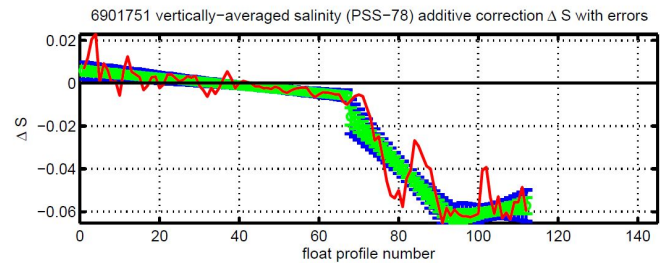
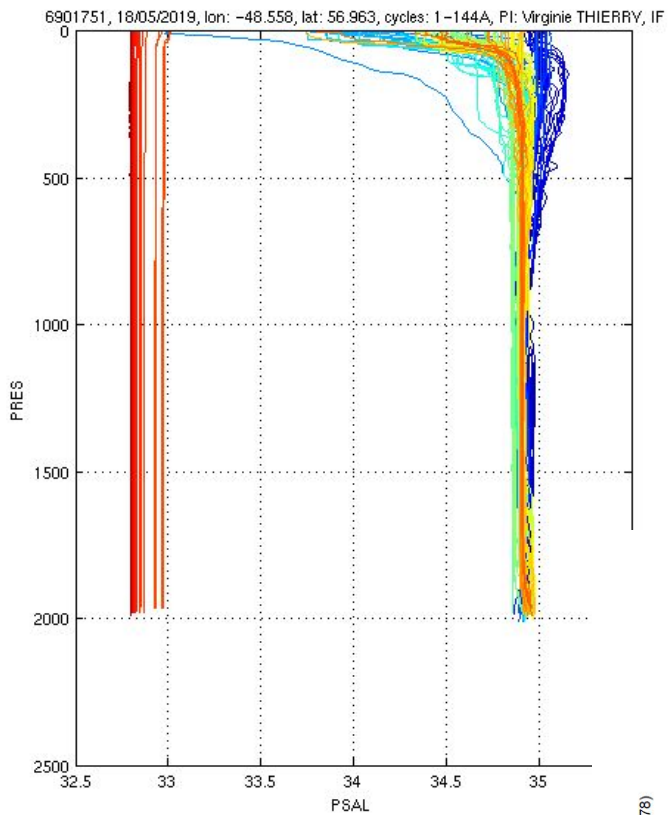
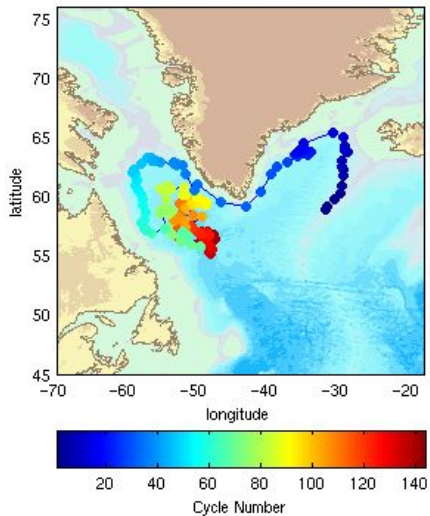




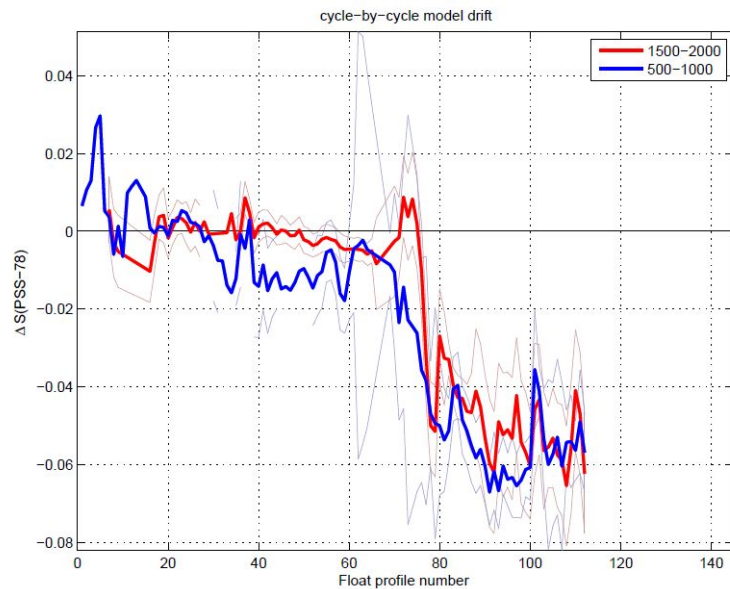
Correction proposed by OW software

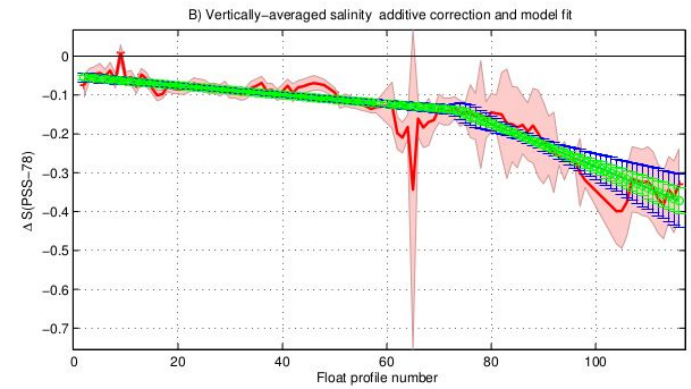
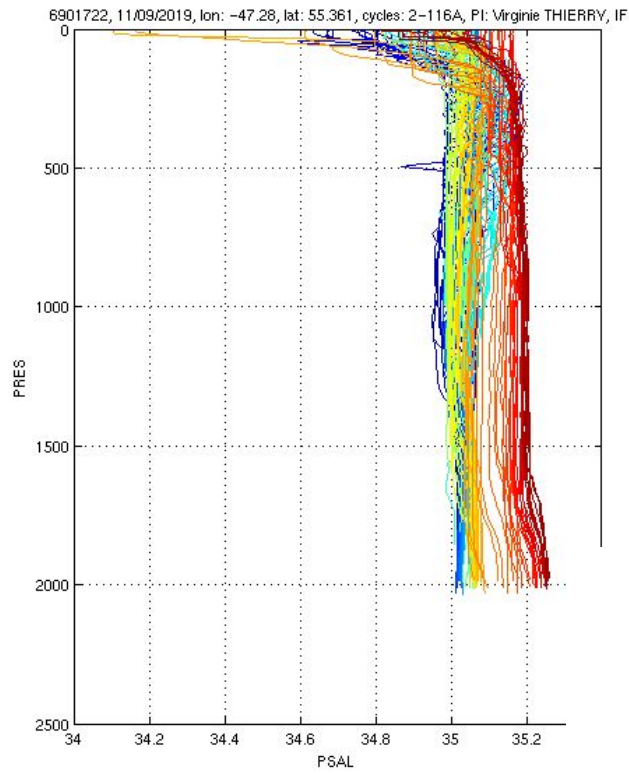
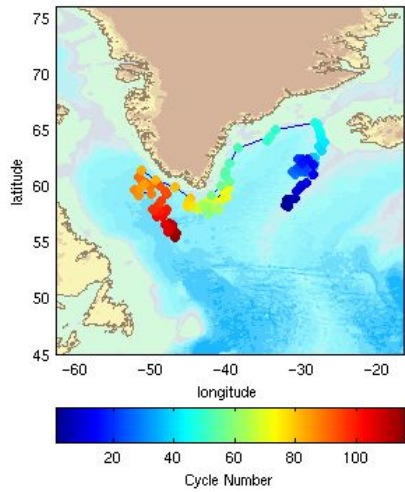


6901751 SN 5948 LAUNCH :2015

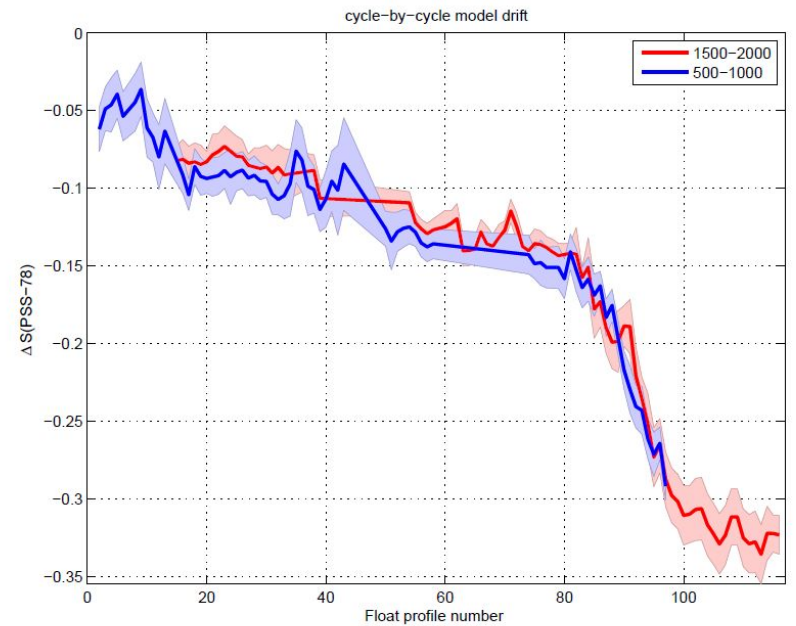


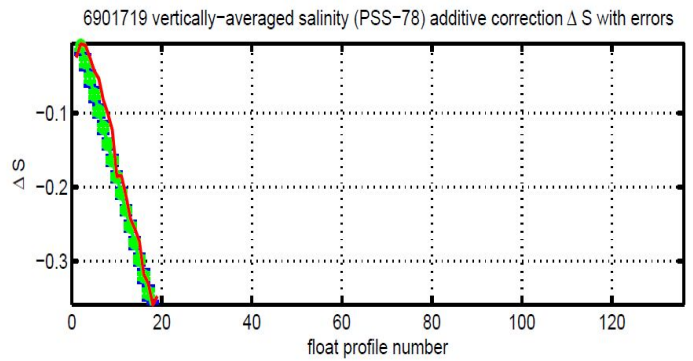
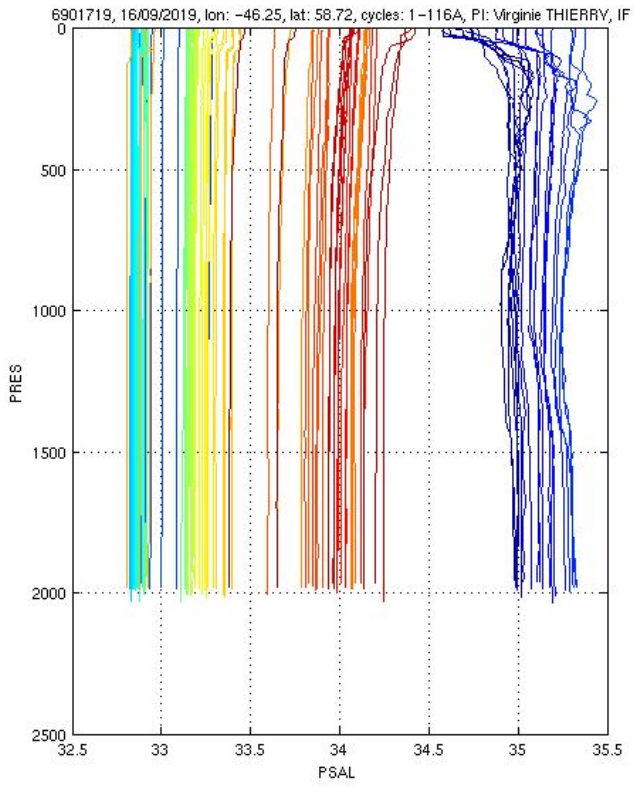
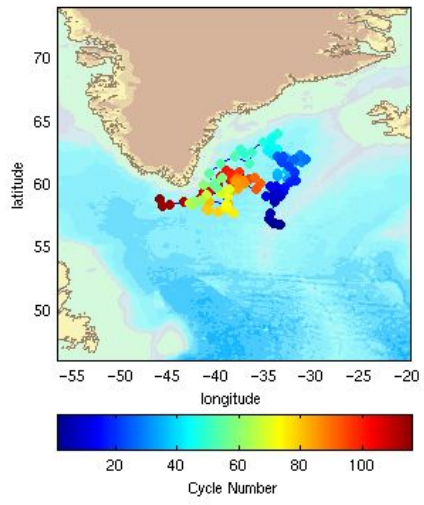
Correction proposed by OW software



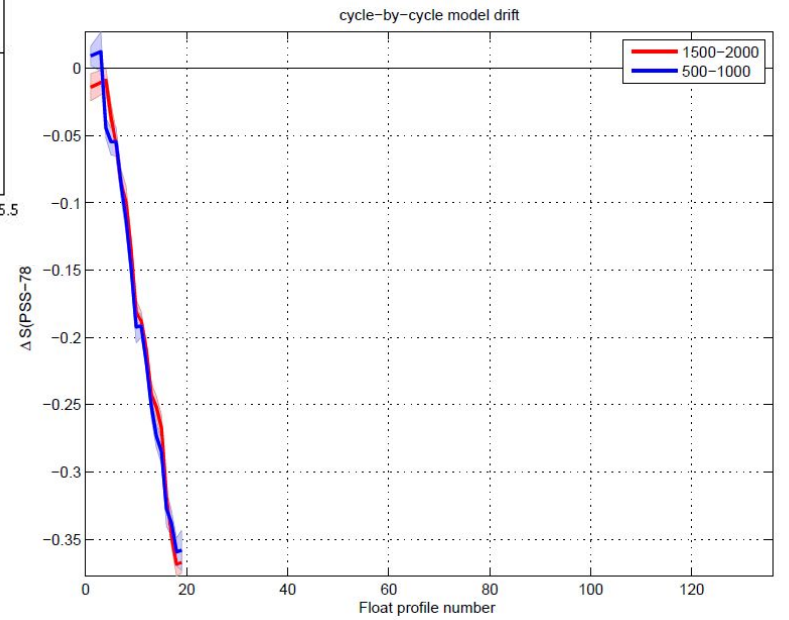


Correction proposed by OW software

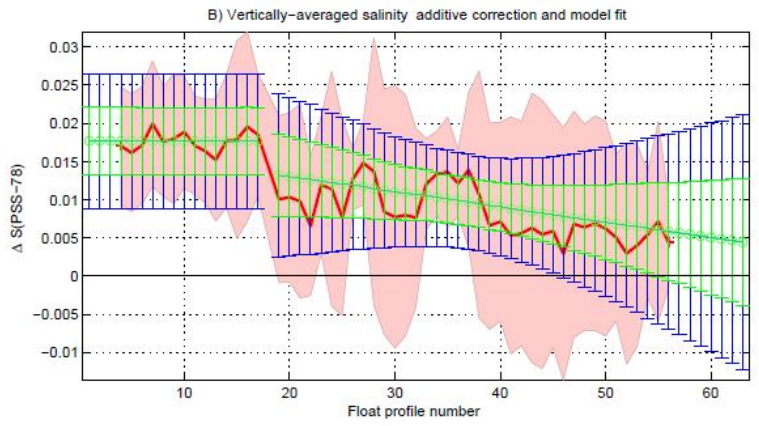
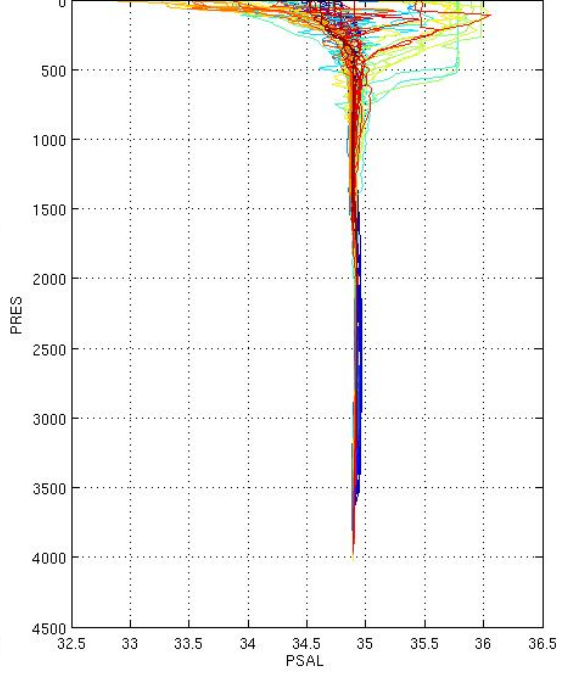
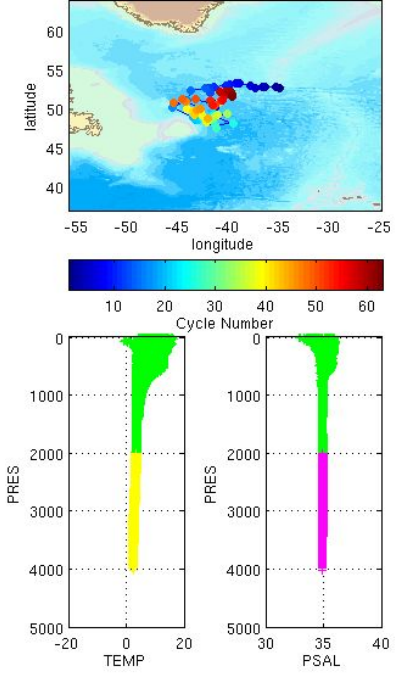




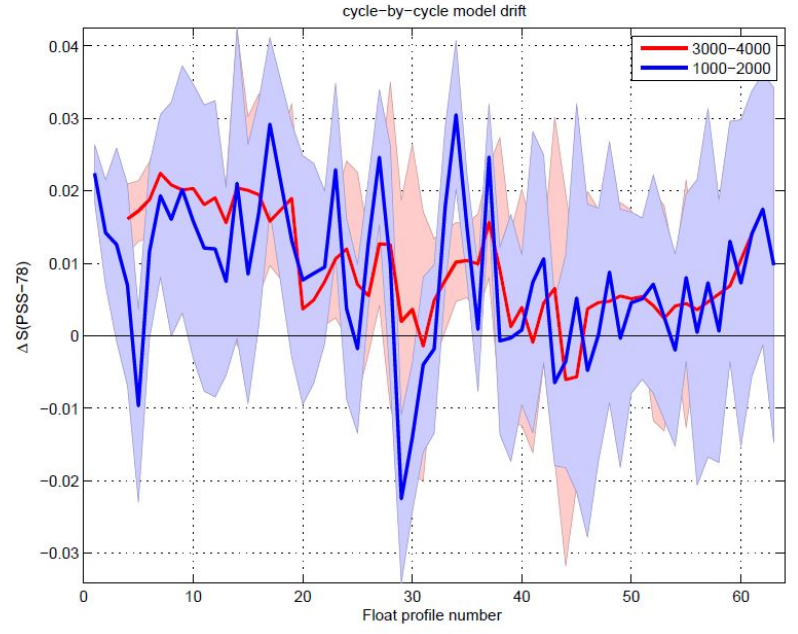
Correction proposed by OW software

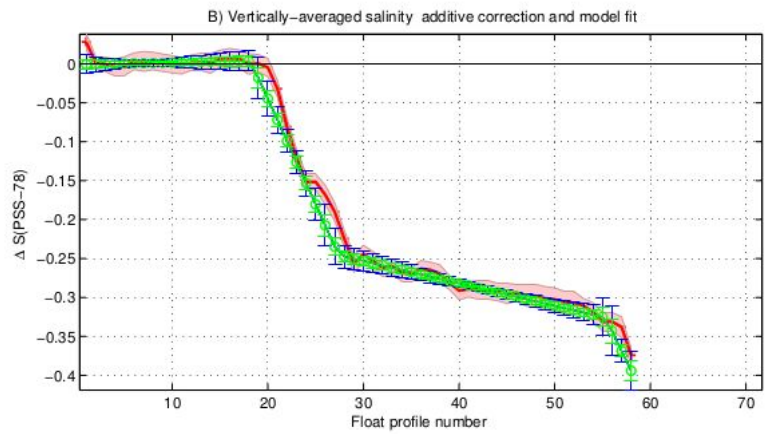
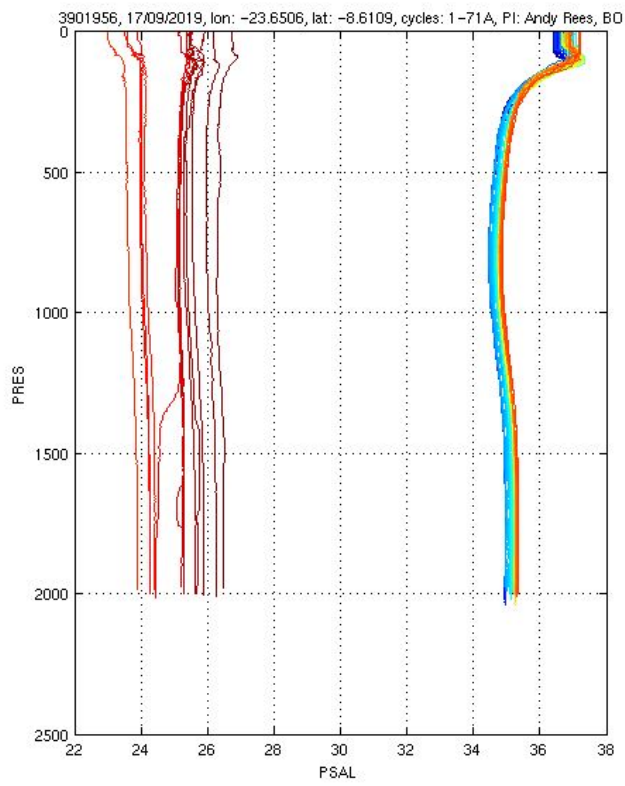
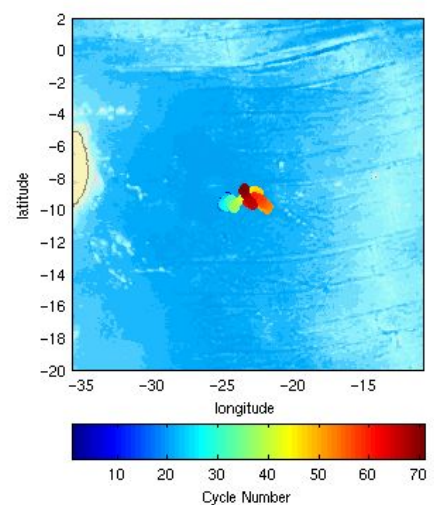


6901758, 24/03/2017, lon: -39.791, lat: 51.6644, cycles: 1-63A, Pt: Virginie THIEF

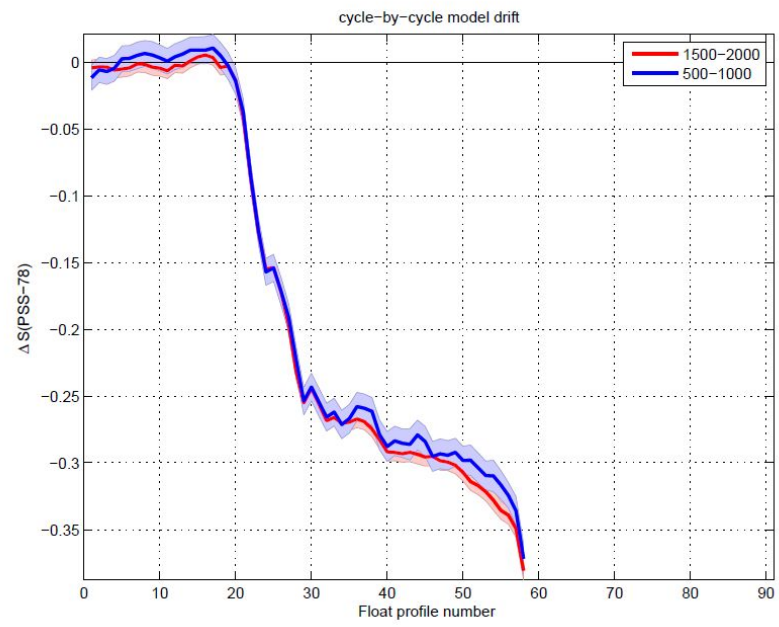


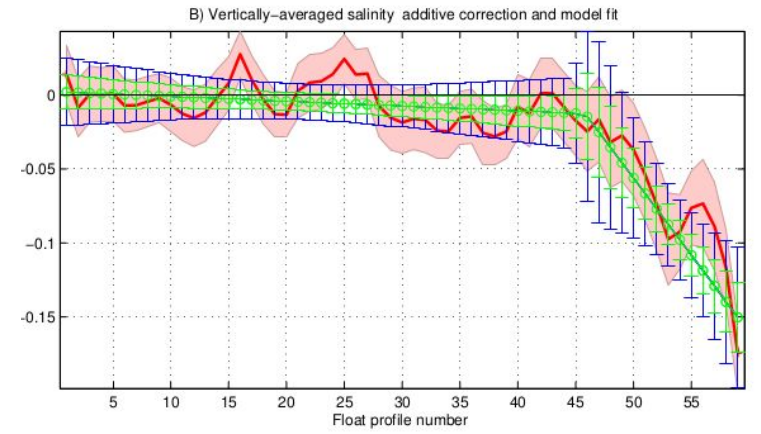
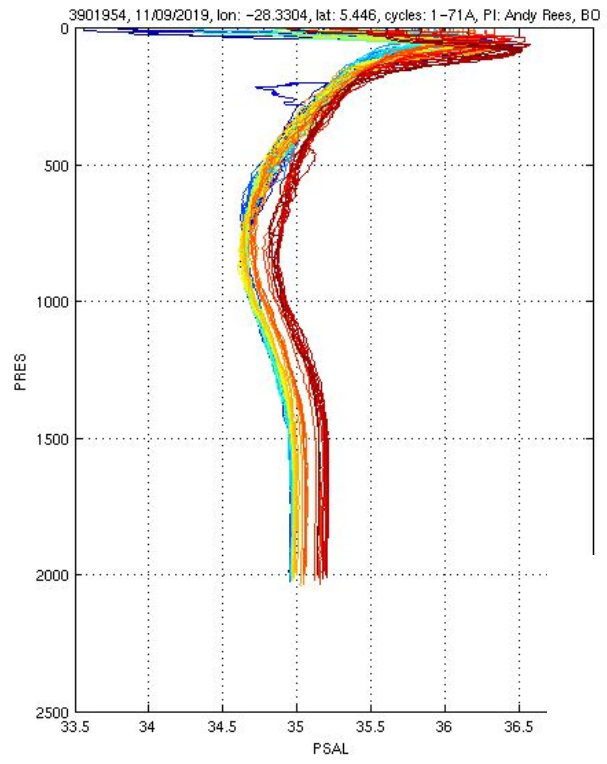
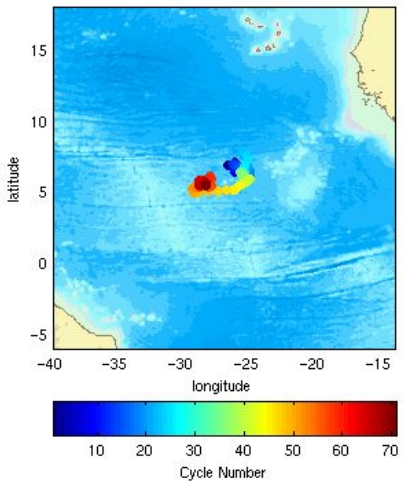
Correction proposed by OW software



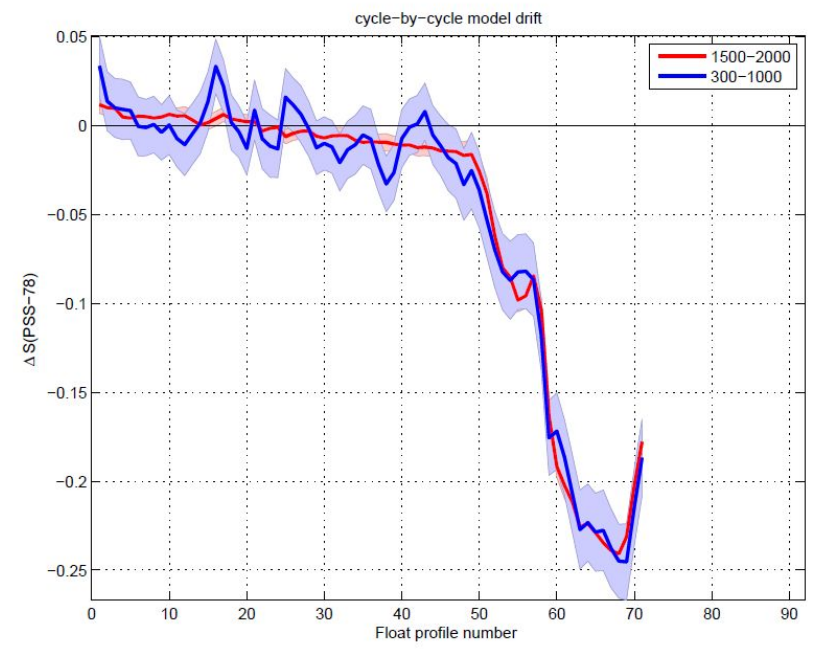


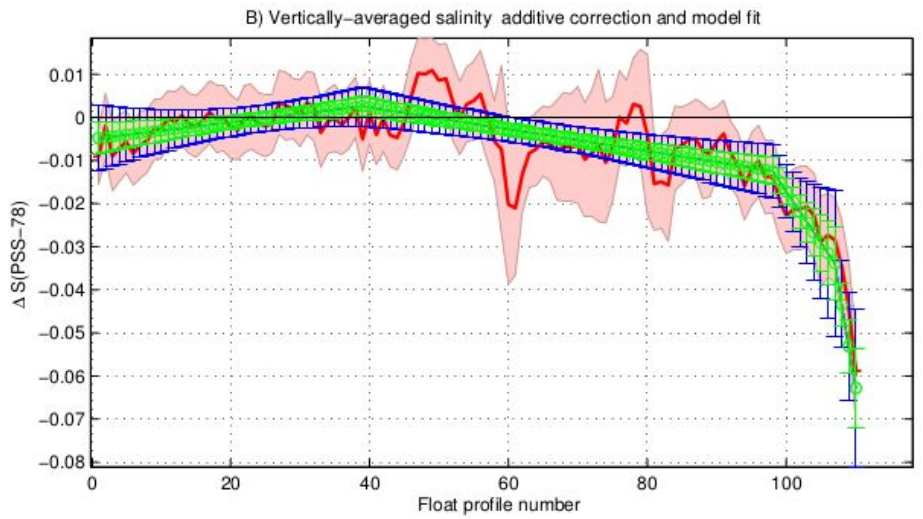
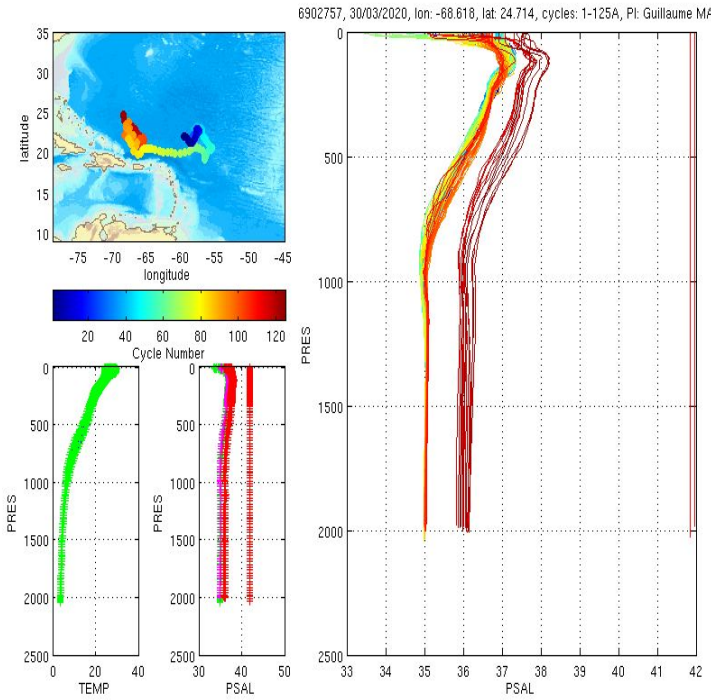
Correction proposed by OW software



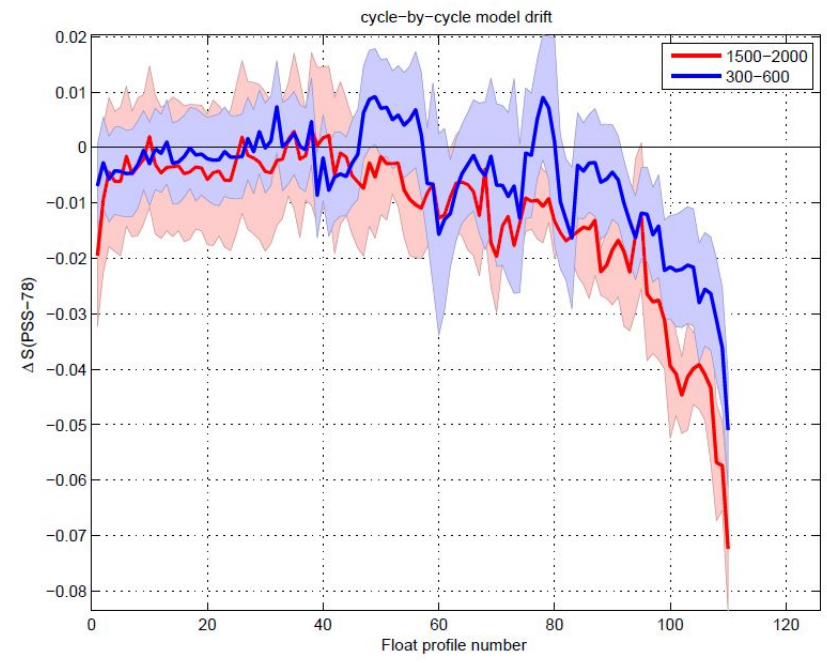


Correction proposed by OW software



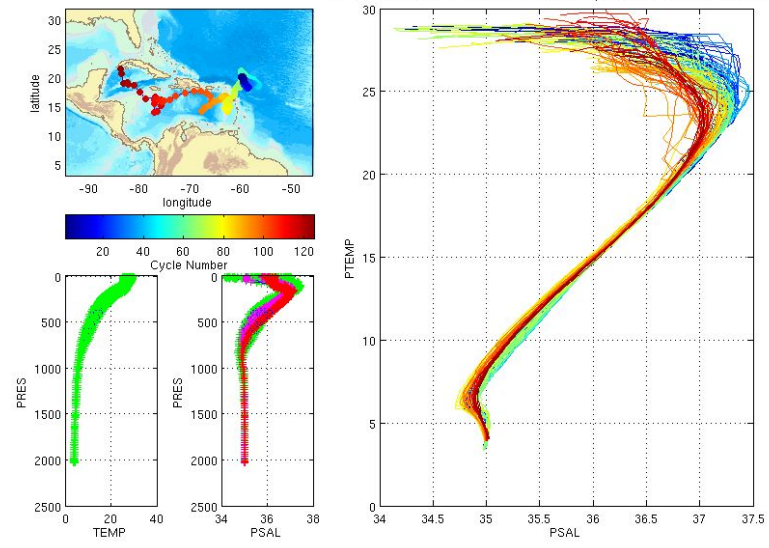


Correction proposed by OW software



pressure dependence when the drift became very large ??

6902746, 29/03/2020, lon: -84.008, lat: 21.601, cycles: 1-125A, Pt: Guillaume M



B) Vertically-averaged salinity additive correction and model fit

