Rapport interne LPO/15-10

UMR 6523 **Laboratoire de Physique des Océans** 	**DELAYED MODE QUALITY CONTROL OF OVIDE ARGO DATA** **FLOAT WMO 6900403**	
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DELAYED MODE QUALITY CONTROL OF OVIDE ARGO DATA FLOAT WMO 6900403

Internal Report LPO 15-10

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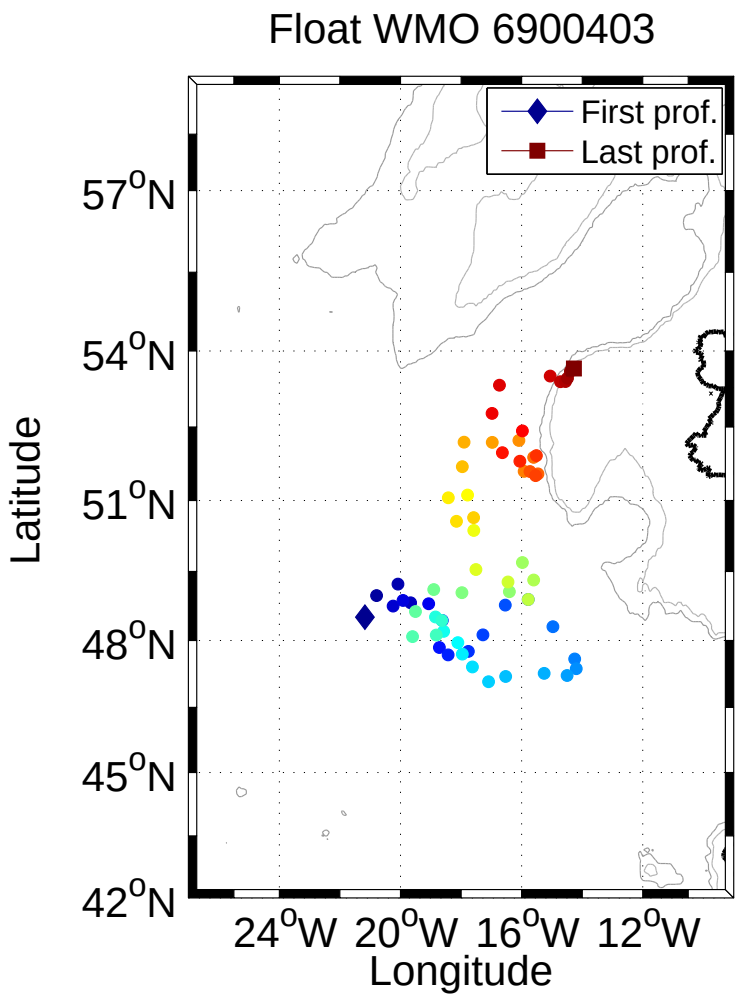
December 7, 2015



1 Presentation and DMQC summary

Warning : Note that all the figures are plotted with the latest QC flag values (the modifications mentionned table 2 are taken into account).

1.1 QC flag checks and interesting profiles

Warning : the resolution is equal to 50 dbar from the surface to 500 dbar, then 60 dbar from 500 to 2000 dbar. Salinity data between 0 and 5 dbar are suspicious because they are acquired when the pump of the CTD is turned off.

1.2 Salinity correction from the OW method

We cannot see any evidence of a drift or bias in the salinity measurement. We thus conclude that it is not necessary to correct the salinity data. Errors bars are maximum value between 0.01 and those determined from the OW method with parameters from the OW configuration 129.

Number	Deployment (cycle OD) cycle OD	Last cycle 63 (+54)
Provor WMO 6900403	04/06/2006 16h 36	
CTS3	48.422 N 21.14 W	

Date of control	Float status	Last cycle
August 2009	DEAD	27/02/08 (63)
Coriolis transmission		26/08/2009

Date of last control	Float status	Last cycle
October 2015	DEAD	27/02/08
Coriolis transmission		27/10/2015

Table 1: Status of the float

Cycle	Para-meter	Vertical level	Old flag	New flag	Comments	Coriolis transmission
54					missing cycle	August 2009
54					present cycle	October 2015

Table 2: Float 6900403. Summary of the modifications of the real-time QC flags and of the interesting or suspicous data.

2 Data

OW CONFIGURATION	129
CONFIG_MAX_CASTS	250
MAP_USE_PV	1
MAP_USE_PV_ELLIPSE	1
MAP_USE_FACTEUR	1
MAPSCALE_LONGITUDE_LARGE	3.2
MAPSCALE_LONGITUDE_SMALL	0.8
MAPSCALE_LATITUDE_LARGE	2
MAPSCALE_LATITUDE_SMALL	0.5
MAPSCALE_PHI_LARGE	0.1
MAPSCALE_PHI_SMALL	0.02
MAPSCALE_AGE	0.69
MAP_P_EXCLUDE	500
MAP_P_DELTA	250
Reference data base	CTD and ARGO

Table 3: Parameters of the OW method.

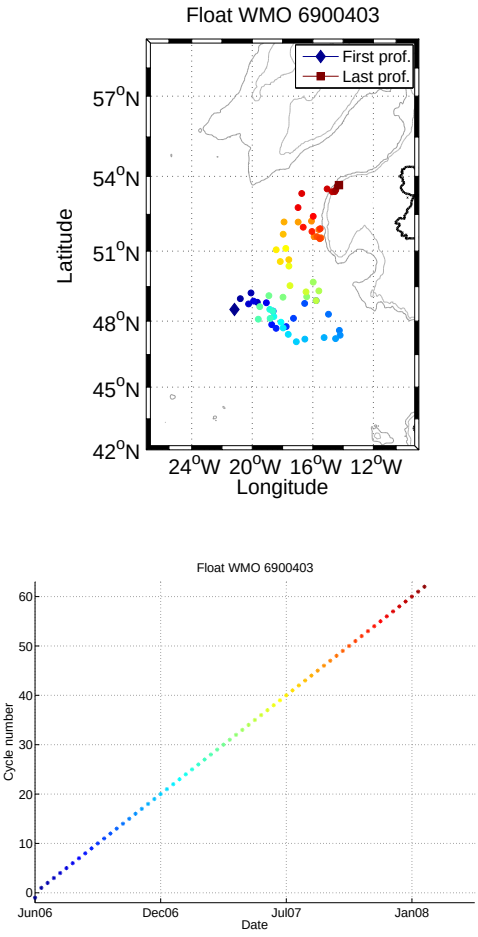


Figure 1: Profiles position and relationship between cycle number, date and color.

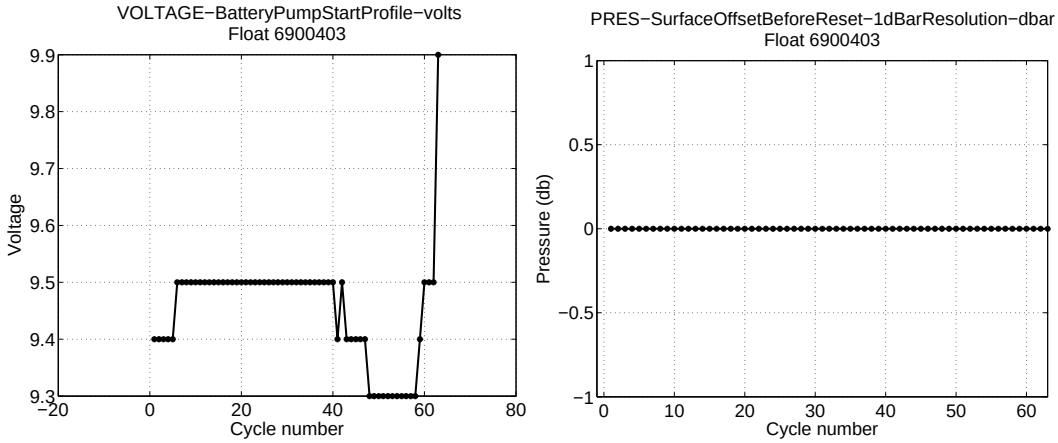


Figure 2: Battery Voltage and Surface Pressure

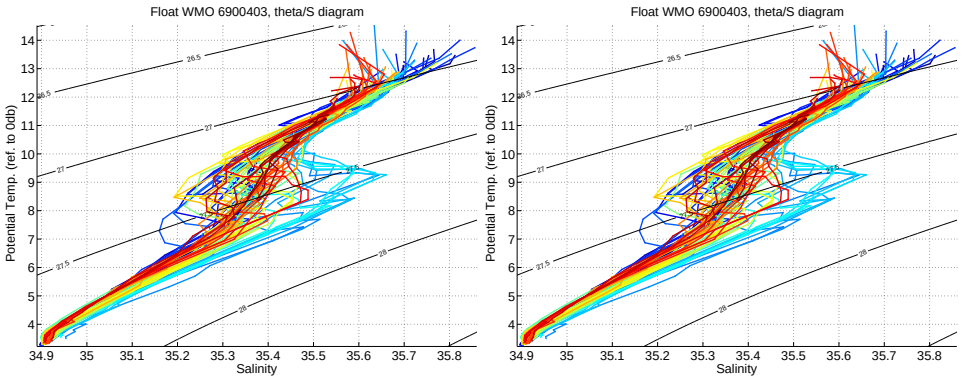


Figure 3: θ/S diagrams. (Left panel) Flags are not taken into account. (Right panel) Quality flags are taken into account.

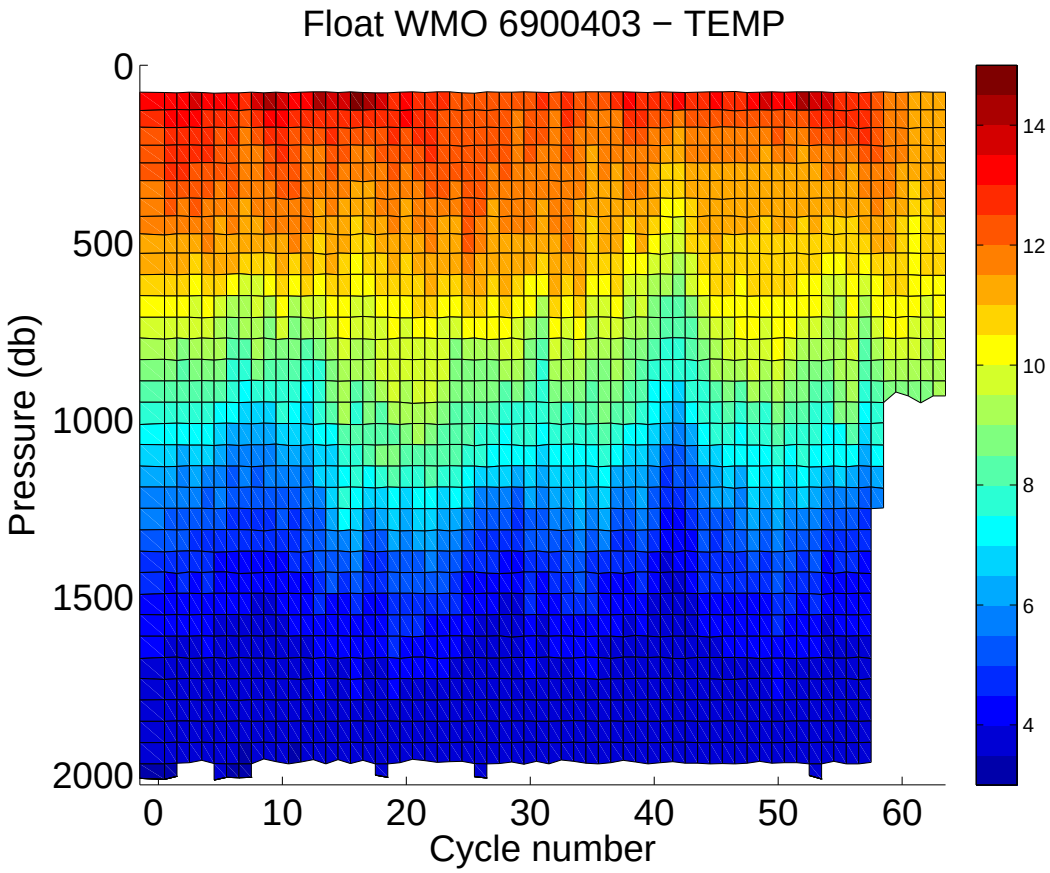


Figure 4: Temperature section along the float trajectory. Quality flags are not taken into account.

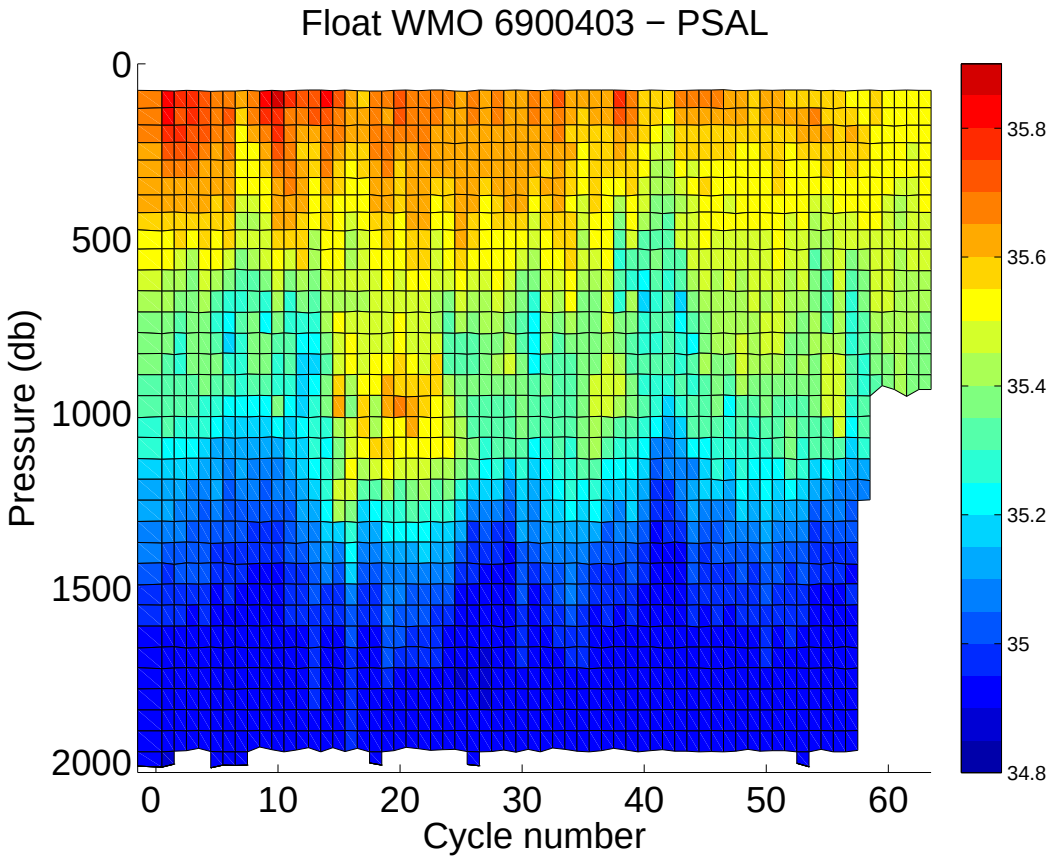


Figure 5: Salinity section along the float trajectory. Quality flags are not taken into account.

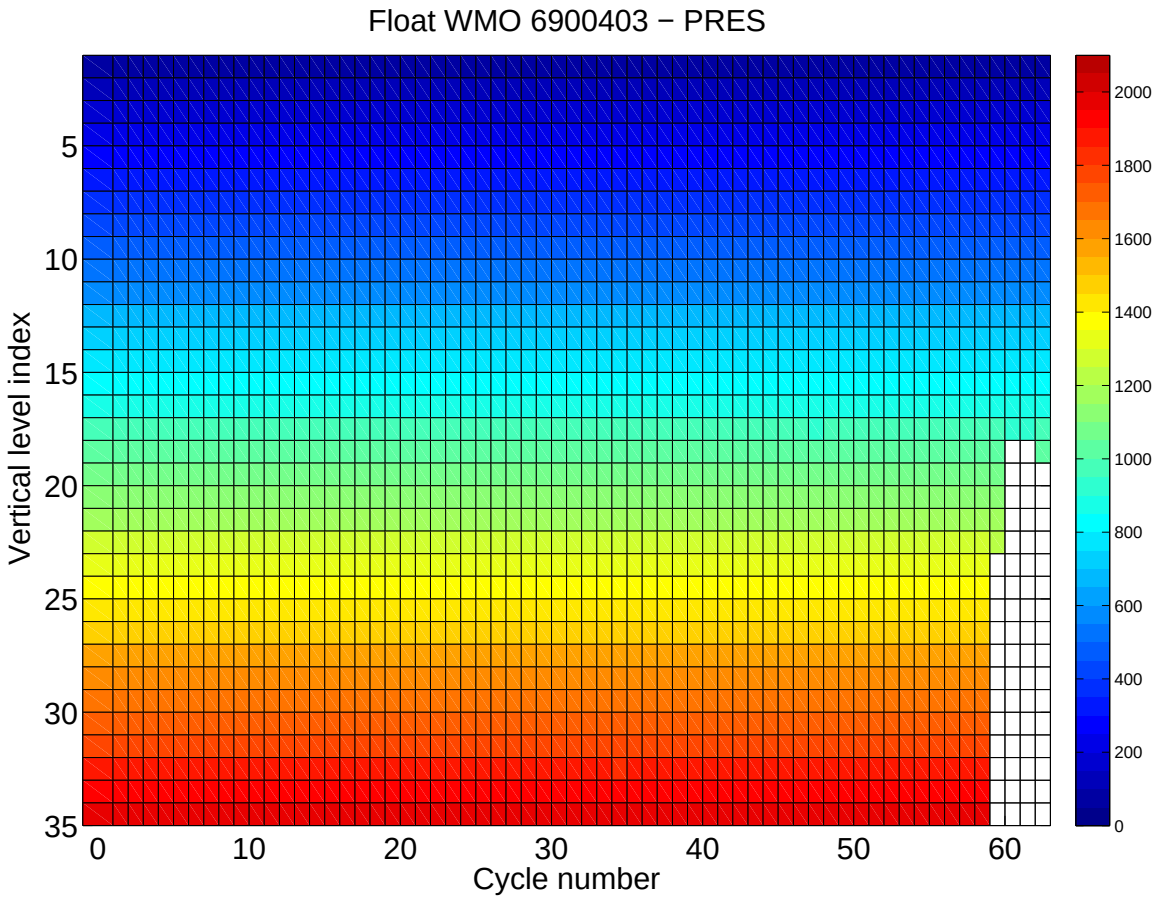


Figure 6: Pression as fonction of cycle number and vertical level index along the float trajectory. Quality flags are taken into account.

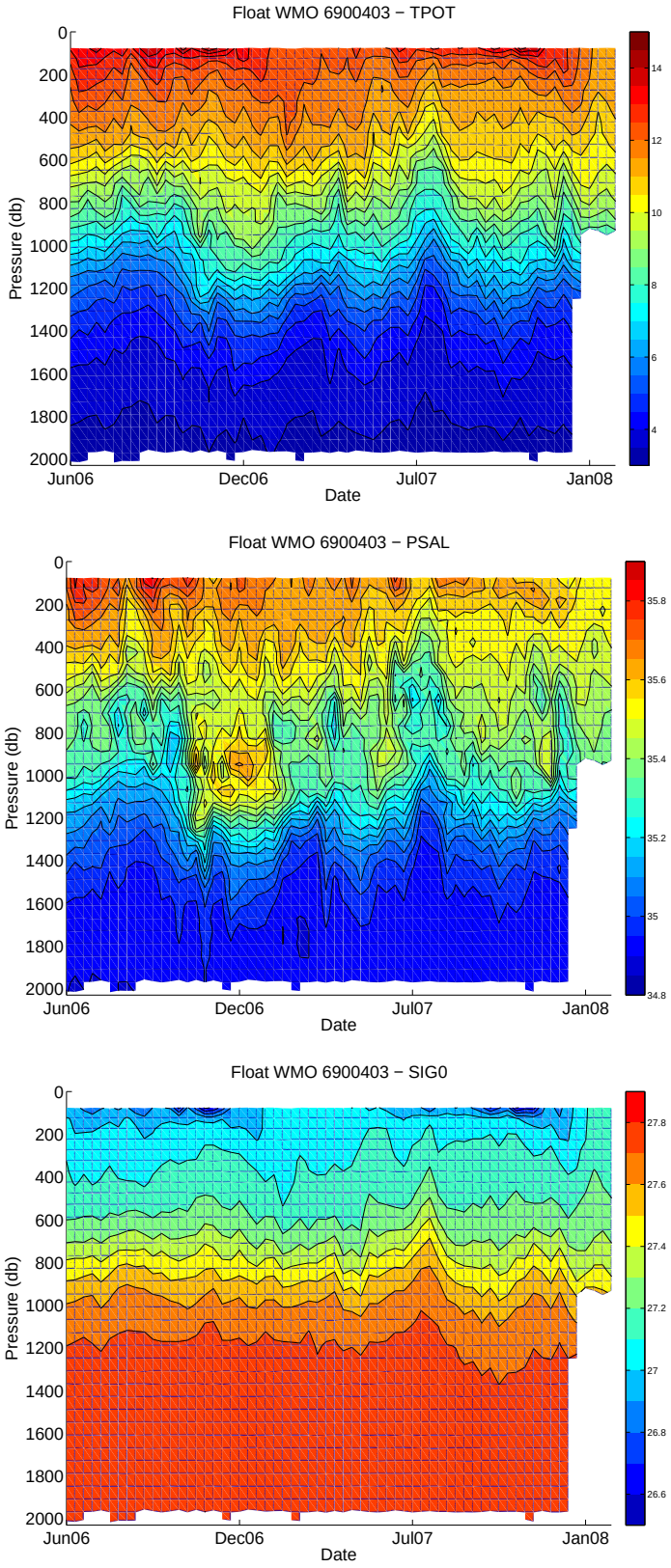


Figure 7: Potential temperature, salinity and potential density sections along the float trajectory (interpolated on standard levels). Quality flags are taken into account.

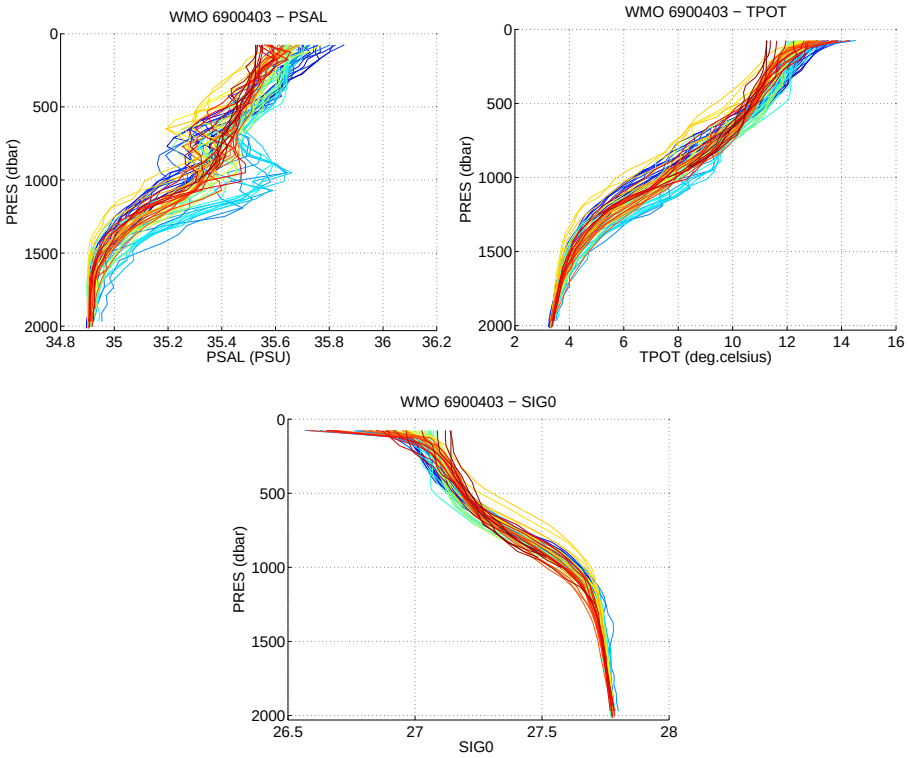


Figure 8: Salinity, Potential Temperature and Potential Density profiles. Quality flags are taken into account.

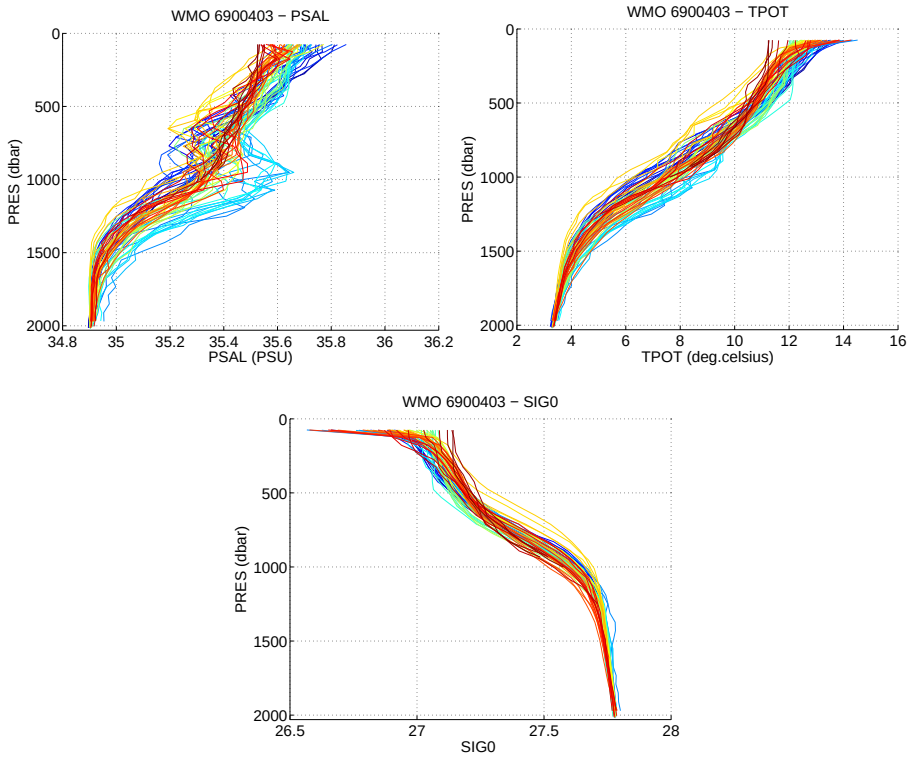


Figure 9: Salinity, Potential Temperature and Potential Density profiles. Quality flags are not taken into account.

3 Comparison to the OVIDE 2006 nearest CTD profile

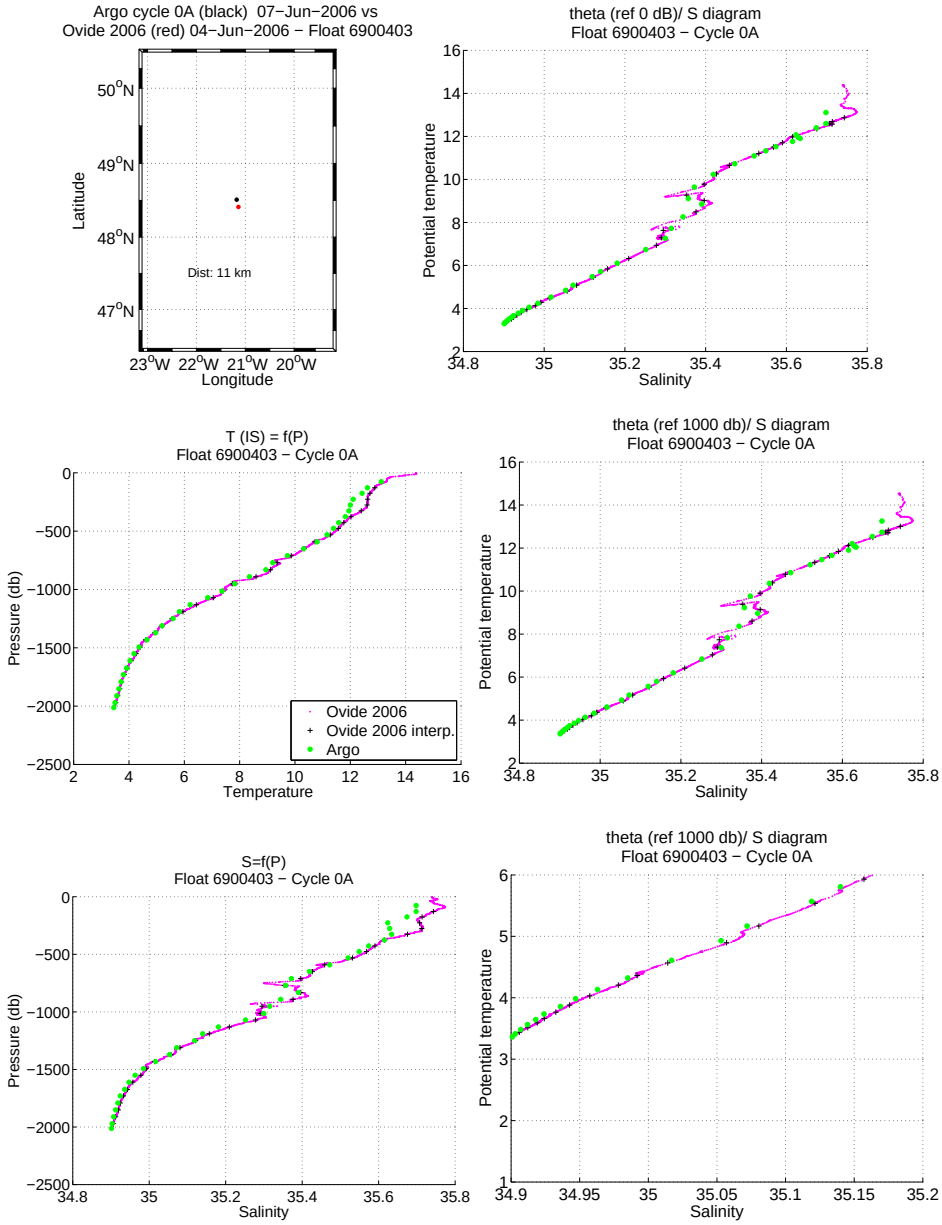


Figure 10: Comparison of the cycle 0A with the nearest CTD profile done after the float deployment.

4 OW method, CONFIGURATION # 129

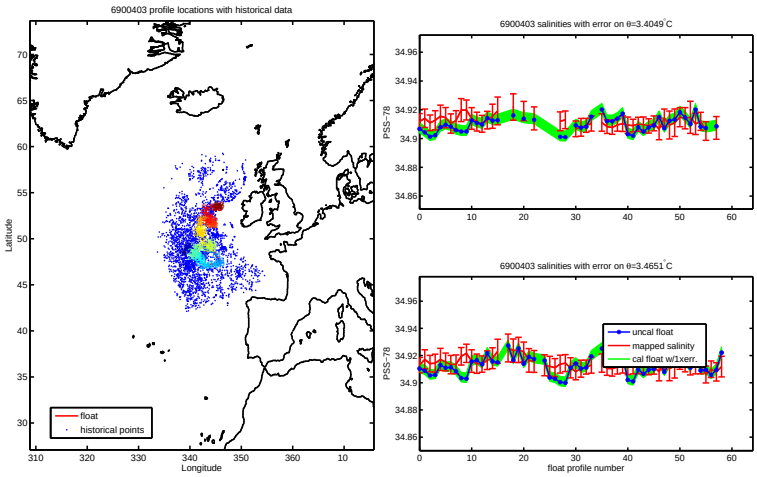


Figure 11: Figures from the OW method. (Left) Position of the historical and float data. (Right) Comparison, on various θ levels, between the float data and the historical data interpolated at the float position.

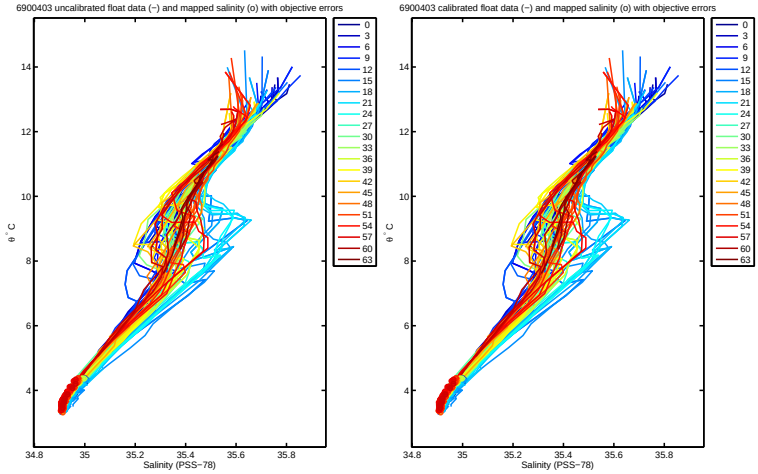


Figure 12: Figures from the OW method. Compararison of the θ/S diagram of the float with the historial database. (left) raw data; (right) corrected data using the OW correction.

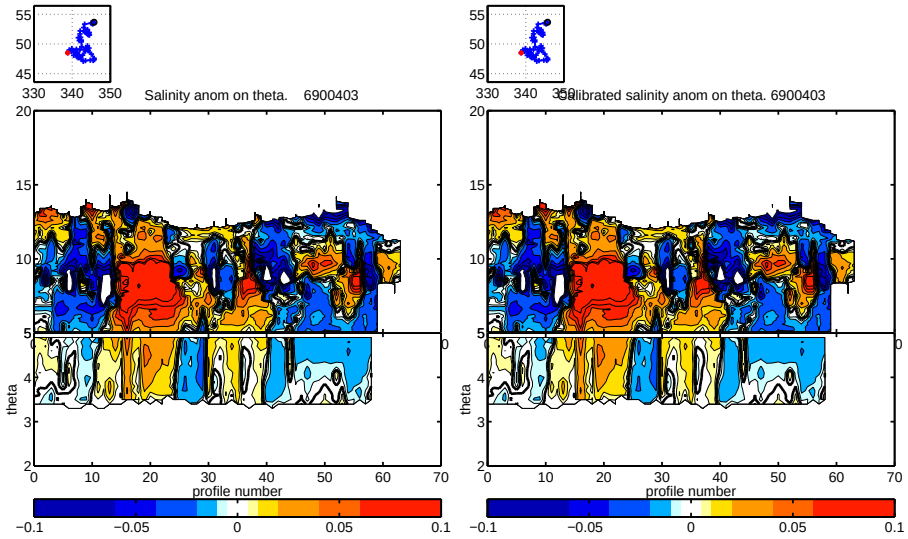


Figure 13: Figures from the OW method. Salinity anomaly:(left) raw data; (right) corrected data using the OW correction.

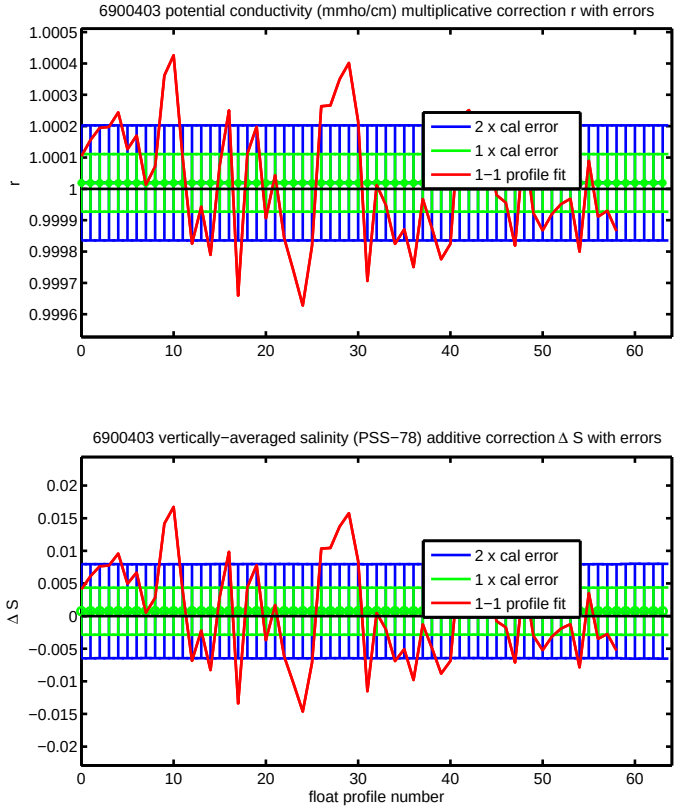


Figure 14: Correction proposed by the OW method.

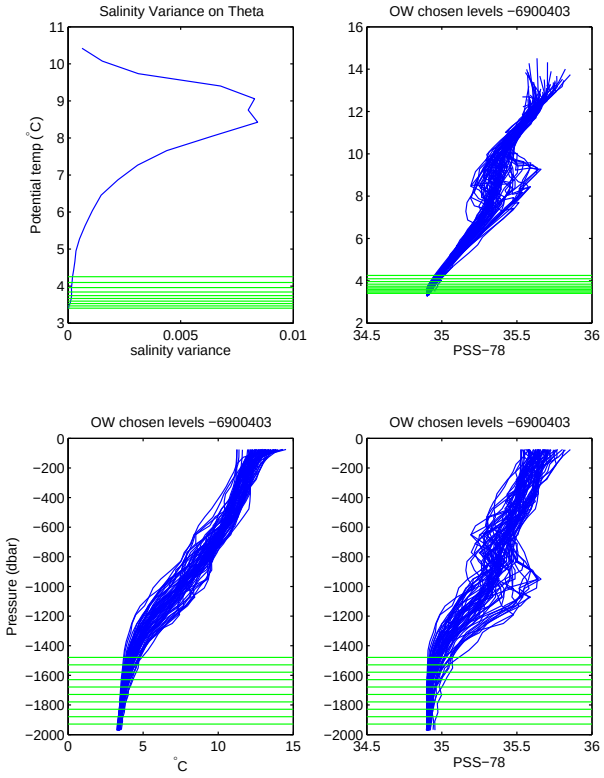


Figure 15: Chosed levels by the OW method.