

DMQC of the float 3901904 (MOCCA-EU, Arvor I, status: active)

Profiles: 1-193 (1D)

Objective Mapping Parameters

% max number of historical casts used in objective mapping

CONFIG_MAX_CASTS=300

% 1=use PV constraint, 0=don't use PV constraint, in objective mapping

MAP_USE_PV=0

% 1=use SAF separation criteria, 0=don't use SAF separation criteria, in objective mapping

MAP_USE_SAF=0

% spatial decorrelation scales, in degrees

MAPSCALE_LONGITUDE_LARGE=5

MAPSCALE_LONGITUDE_SMALL=0.5

MAPSCALE_LATITUDE_LARGE=4

MAPSCALE_LATITUDE_SMALL=0.5

% cross-isobath scales, dimensionless, see BS(2005)

MAPSCALE_PHI_LARGE=0.5

MAPSCALE_PHI_SMALL=0.1

% temporal decorrelation scale, in years

MAPSCALE_AGE=10

MAPSCALE_AGE_LARGE=50

% exclude the top xxx dbar of the water column

MAP_P_EXCLUDE=700

% only use historical data that are within +/- yyy dbar from float data

MAP_P_DELTA=250

PARAMETERS =

PRES

PSAL

TEMP

SCIENTIFIC_CALIB_EQUATION =

(profiles 1-35)

PRES_ADJUSTED=PRES

PSAL_ADJUSTED=PSAL

TEMP_ADJUSTED=TEMP

(profiles 36-66)

PRES_ADJUSTED=PRES

PSAL_ADJUSTED=PSAL_ADJUSTED = PSAL + Delta_S, where Delta_S is calculated from a potential conductivity (ref to 0 dbar) multiplicative adjustment term r

TEMP_ADJUSTED=TEMP

(profiles 67-193)

PRES_ADJUSTED=PRES

none

none

PARAMETER_ADJUSTED_QC =

See below, figures 1, 2, 3.

SCIENTIFIC_CALIB_COEFFICIENT =

(profiles 1-35)

none

none

none

(profiles 36-66)

none

r= 0.99953 (+/- 1e-05) , vertically averaged dS =-0.017616 (+/- 0.01)

none

(profiles 67-193)

“ “

none

none

SCIENTIFIC_CALIB_COMMENT =

(profiles 1-35)

No adjustment is required: correction less than the manufacturer quoted accuracy of the pressure sensor (2.4 dbar).No significant pressure sensor drift has been detected. Diagnostics plots

http://nettuno.ogs.trieste.it/sire/medargo/all/table_out_all.php

No adjustment was necessary - Calibration error is manufacturer specified accuracy

No adjustment was necessary. Error = maximum [statistical uncertainty, 0.01]. OWC Method, 3.0, -CTD2021V02 & ARGO2021V03 -Map scales: x=5, 0.5; y=4, 0.5. P_Vort=0.

MAP_USE_SAF=0,AGE_LARGE=50, AGE_SMALL=10.

(profiles 36-66)

No adjustment is required: correction less than the manufacturer quoted accuracy of the pressure sensor (2.4 dbar).No significant pressure sensor drift has been detected. Diagnostics plots

http://nettuno.ogs.trieste.it/sire/medargo/all/table_out_all.php

Salinity drift detected. OWC adjustment is needed. Error = maximum [statistical uncertainty, 0.01].

OWC Method, 3.0, -CTD2021V02 & ARGO2021V03 -Map scales: x=5, 0.5; y=4, 0.5. P_Vort=0.

MAP_USE_SAF=0,AGE_LARGE=50, AGE_SMALL=10.

none

(profiles 67-193)

No adjustment is required: correction less than the manufacturer quoted accuracy of the pressure sensor (2.4 dbar). No significant pressure sensor drift has been detected. Diagnostics plots

http://nettuno.ogs.trieste.it/sire/medargo/all/table_out_all.php

Bad data; not adjustable. OWC Method, 3.0, -CTD2021V02 & ARGO2021V03 -Map scales: x=5, 0.5; y=4, 0.5. P_Vort=0. MAP_USE_SAF=0, AGE_LARGE=50, AGE_SMALL=10.

No adjustment was necessary - Calibration error is manufacturer specified accuracy

Reference dataset:

CTD and ARGO for_DMQC: CTD2021V02 & ARGO2021V03

DMQC summary graphs

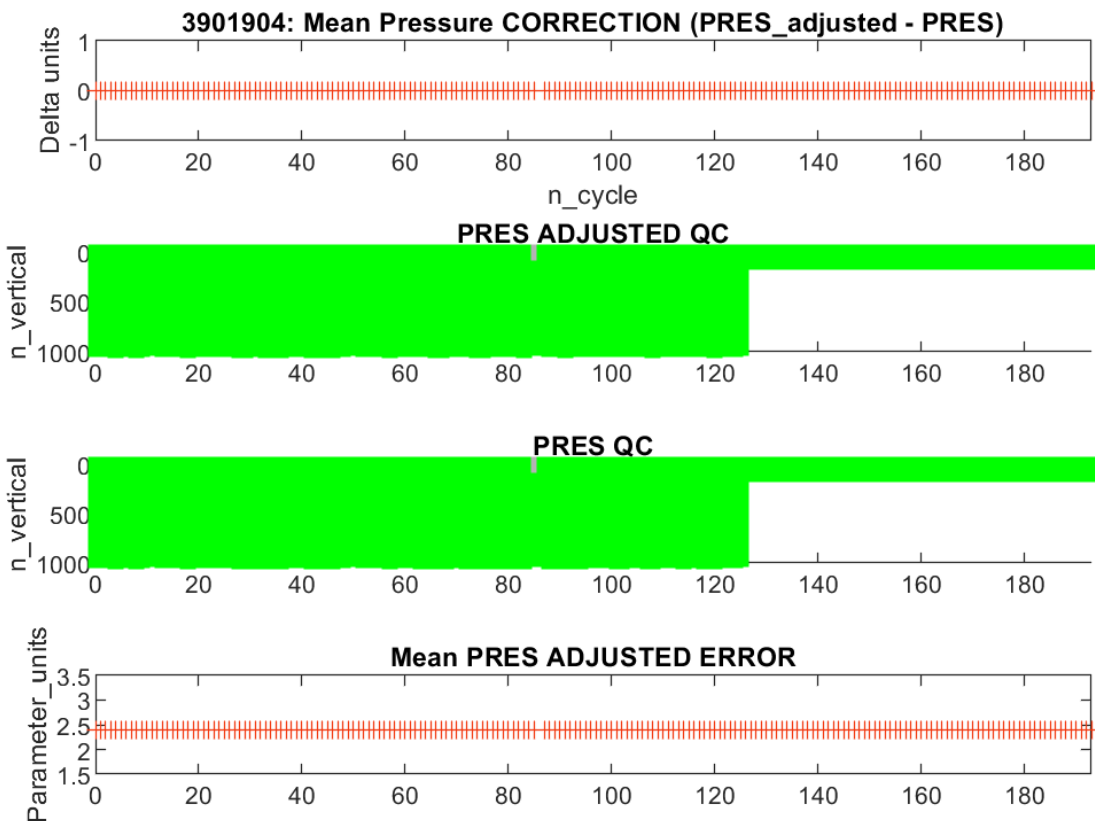


Figure 1. Corrections, QC flag (green for good data) and the adjusted error for pressure.

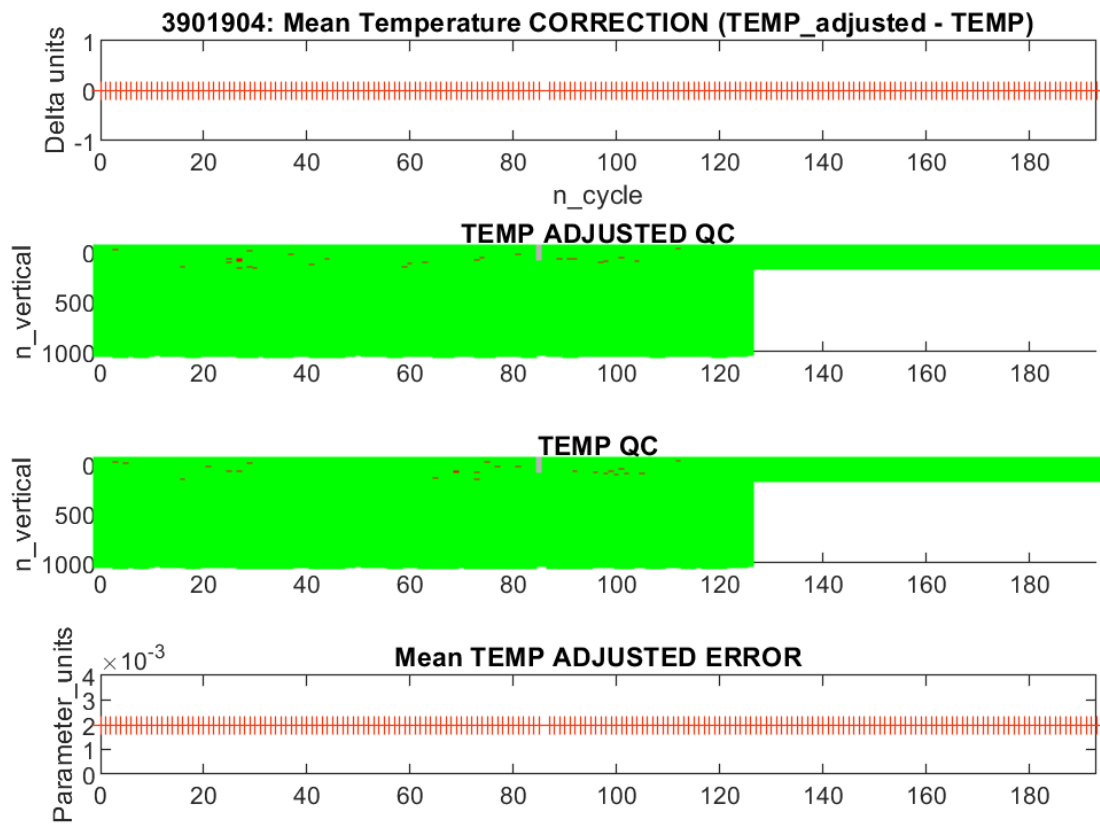


Figure 2. Corrections, QC flag (green for good data) and the adjusted error for temperature.

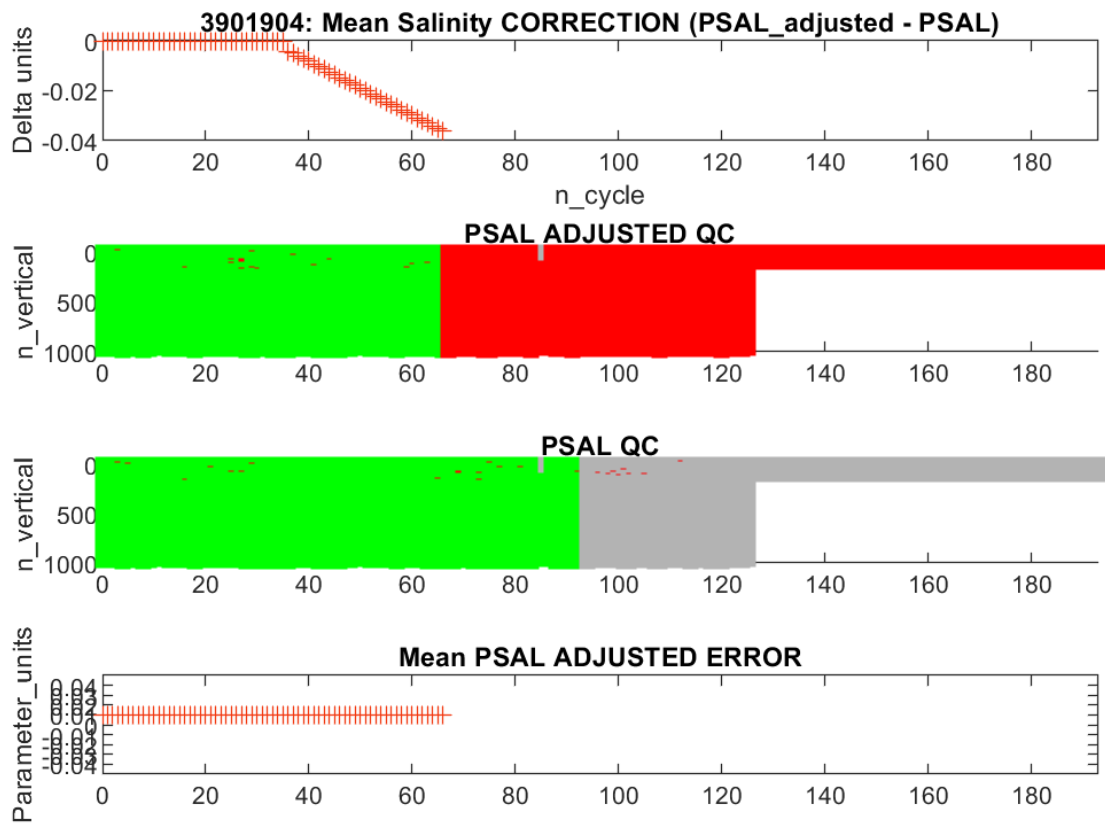


Figure 3. Corrections, QC flag (green for good data, red stands for QC 4 or 9, grey the other QC values) and the adjusted error for salinity.

Additional comment:

Abrupt salinity drift from cycle 98, not adjustable since cycle 67.

The entire series was splitted from cycle 1 to 66 to better estimate the OWC correction on PSAL.

| Float WMO | Status | Correction on salinity | Flag applied to PSAL_ADJUSTED | Pressure | Other |
|-----------|--------|------------------------|-------------------------------|----------------|-------|
| 3901904 | Active | not required | Profiles 1 to 35 → flag 1 | Autocorrecting | – |
| | | required | Profiles 36 to 66 → flag 1 | Autocorrecting | – |
| | | not adjustable | Profiles 67 to 193 → flag 4 | Autocorrecting | – |

Table 1. Summary of possible corrections for this float.