Calibration Notes

2013-05-21

S.Z.

Calibrations done 2013-03-13 but more housekeeping updates on 2013-05-21

2004-16 JOIS

Data had not been calibrated.

Applied shift to CTD Flurometer data in profiles of 1.5db. Downcast data was shifted up and upcast data shifted down. This corrects for a 3db offset (typically) observed between peaks in CTD fluorescence.

Shift was not applied to transmissometer data as its unclear if peak should really be at same depth on down and upcast for a un-pumped sensor.

New CTD fluorometer data were taken out of updated upcast at matching pressure for the chemistry file.

Calibration with bottle data performed using bottle chlorophyll values limited to between 0.025 and 0.06 mg/m3.

Calibration with these new CTD data give a better fit than with the old data. The bias was -0.002 as opposed to +0.02mg/m3 which keeps the deep water value closer to the expected 0.

Casts with clearly bad downcasts were corrected by replacing with upcast data when upcast data were good or with -99 if upcast did not provide better data. All the bad casts had the same issue with the downcast reading too high. For cast 19 this was extremely bad, the others were only off by ~0.1 mg/m3

Downcast values w/in 0.02 of upcast (and neighboring station) values were not corrected.

Cast 19: Upcast values used from 0 to 80db. Set to -99 from 81db to bottom.

Cast 20: Replace downcast with upcast values.

Cast 30: Replace downcast with upcast values.

Cast 34: Replace downcast with upcast values.

Cast 37: Replace downcast with upcast values.

Cast 40: Replace downcast with upcast values.

Chose NOT to replace all data less than 0.025 (below sensitivity of the fluorometer) with -99.

The number of observations used were 75 out of 93 with a standard deviation of 0.02 in the residuals.

Coefficients of fit: Slope: 1.4585, Bias -0.0026

Matlab scripts used:

 *Get\_200416.m*

 *Cal\_200416\_fluor.m*

Processing related file move to:

G:\Sorted\2004-16\_LSSL\DATA\CTD\onshore\_processing\Calibration\_Fluorometer

Data moved from:

G:\Sorted\Arctic Data\2013-02-ChloroCal

To:

G:\Sorted\2004-16\_LSSL\DATA\CTD\onshore\_processing\1db\_2013-03-13