Altimeter SWH calibration – updated May 2010

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This annexe gives details of the corrections applied to the GDR SWH data. The content is subject to change with time.

Altimeter SWH measurements are validated and calibrated through comparisons with buoy measurements.

A summary of accuracy and proposed corrections, for each altimeter, are given in the following figures. In each figure, some statistics are reported: the number of data (N), the mean value (MEAN) and standard deviation (STD) of differences between altimeter and buoy SWH measurements; a confidence interval (CONF) defined as the percentage of data within the interval defined by the mean value of differences plus or minus twice standard deviations of differences; the slope (SLOPE) and intercept (INT) of the orthogonal regression line – these two parameters are used to correct linearly the altimeter SWH measurement; a dispersion parameter (DIST) which is the root mean square of orthogonal distances to the regression line.

In some figures two sets of these parameters are given: the upper one (in the figure) is obtained with the whole comparison data set, the lower one is obtained keeping only the data for which the difference (altimeter minus buoy measurement) is within the interval defined by the mean value of differences plus or minus three times the standard deviation of the differences.

ERS-1









ENVISAT

TOPEX Side-A



Mean values of altimeter swh differences at ground track crossing points (1 hour, 100km along track averages) as a function of TOPEX cycle. Raw data (top) and linearly corrected (bottom) data. Correction of the TOPEX side -A swh drift was then estimated by the 3rd order polynomial fit on the the TOPEX ERS-2 swh diffences over cycles 98 to 235.



Poseidon



Jason-1 (version *c*)







GEOSAT Follow-On







