Thank you for the instructive feedback. Please find the original editorial comments listed below in black, and our responses that note changes to the manuscript in blue.

According to the text (l 354) the mean value of all measurements is set equal to some value, corresponding to the notation used in eq (5), where an adjusted value (Δ_adj) is obtained from a measurement value (Δ_cal) corrected by the difference of two constants (or means). According to basic statistical rules, the mean of the adjusted value is different from the mean of the non-adjusted value, but the standard deviation of the two data must be the same. This is in contrast to Figure 7, where the standard deviation of the non-adjusted value is shown on the left-hand side and the standard deviation of the adjusted value is shown on the right-hand side.

Either there is a flaw in the argument, or more likely, the procedure is different from what I have inferred. In this case it is necessary that the procedure be explained in more detail.

We have updated the adjustment equation to use sigma notation, which clarifies that the mean value used for the calibration adjustment is a mean across all depths of a single measurement, whereas the standard deviation information presented in Fig. 7 provides the variability among depth-aligned measurements for all CFA measurements. That is, Fig. 7 shows the standard deviation among all 9 CFA measurements, which is a function of the integration time, and the variability across all depths of a single CFA measurement is a function of the seasonality of the analyte. The calibration adjustment does not alter the variability across all depths of a single CFA measurement.

As minor points, please also address the items listed here below:

l. 30: check notation in eq(3)

We have corrected the superscript and added the multiplication symbol to this equation.

l. 95: add et al to Jones

We have updated this as requested.

l. 113: use 30 mm x 30 mm to give correct dimension

We have updated this as requested.

l. 144: 'to the extent practical'. Please check grammar of this phrase

We have rephrased this to say “where possible” instead.

l. 301: give -> gives

We have updated this as requested.

l. 354: set the mean value of all measurements equal to a particular value, or ???
We updated this text to clarify that the mean value across the ~meter of ice is set to the mean value of the discrete measurements.

We have also updated the equation and the text to clarify that the mean correction is a single constant value that is applied to measurements at all depths along the core.

l. 458: delete 'per cm'
We have updated this as requested.

Table 1: Please follow Schoenemann et al (2013) who use 3 significant digits for both, δ17O and δ18O (see Table 1 of that paper). It does not make sense to give δ18O with only two digits after the decimal sign and δ17O with four, especially when the 'difference' (Δ17O) is given at the per meg level (corresponding to the 3rd decimal place in both, δ17O and δ18O).

While Schoenemann et al (2013) do report standalone d18O values to three decimal places in the referenced table in order to avoid rounding error effects on the calculation of D17O, they/we recommended using four decimal places for d17O when d17O and d18O have been measured simultaneously. Independently, neither d17O nor d18O is more precise than two decimal places. However, when D17O is measured, the d17O value normalized to VSMOW-SLAP is calculated from the d18O and the

D17O. This is because the reference water values are also defined in terms of D17O, not d17O. Therefore, we report d17O to four decimal places, and d18O to two decimal places. This convention, described in detail on page 589 in the paragraph immediately below equation 11 in Schoenemann et al (2013), has been adopted by the IAEA. We therefore make no changes of significant digits in the table, but we have added a note to the table to make this convention clear. We also note that, as we report them, the d18O (with two decimal places) and the d17O (with four) provide the correct/measured values of D17O.

Table 2: Please check data entries. It seems that m and b values correspond to the SW2, CW and SPS2 measurements (entries 2 and 3 are identical, as are the dates of these measurements). However, this is not the case for entries 8) and 9), which, however, have also been obtained at the same date.

Entries 2 and 3 correctly indicate identical calibration values, as the first set of calibration standards measured on that date were closest in time to both CFA measurements from the previous day. Entries 8 and 9 also correctly indicate different calibration values, as the calibration standards measured closest in time to entry 8 were measured the morning after the measurement was taken; the standards measured closest in time to entry 9 were taken later that same day. The continuous looping of calibration standards between measurements typically yields two complete sets of calibration data per day. No changes have been made to the table.