

Reply to Reviewer 1

Dear Reviewer, we are deeply appreciating the time and effort you invested in carefully reviewing our manuscript and are grateful you identified the errors in equation 3 and equation 10.

We therefore corrected equation 3 in our manuscript as follows:

$$\Delta\delta_{Drift} = \frac{\delta_{Cal_1}^{int(+),Raw} \cdot (t_s - t_{Cal_1}^{int(-)}) + \delta_{Cal_1}^{int(-),Raw} \cdot (t_{Cal_1}^{int(+)} - t_s)}{t_{Cal_1}^{int(+)} - t_{Cal_1}^{int(-)}} - \delta_{Cal_1}^{Mean,Raw}$$

Note that this was a typo, but the underlying MATLAB code used for data analysis had the equation correctly implemented (see Figure 1 below), and therefore our reported drift correction data is valid.

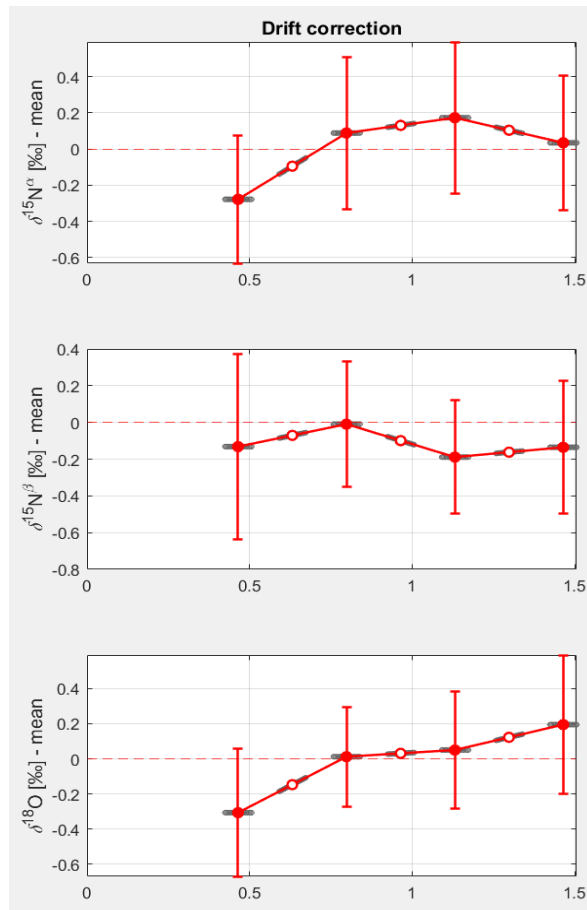


Figure 1: Temporal trend in drift correction applied on $\delta^{15}\text{N}^\alpha$, $\delta^{15}\text{N}^\beta$, and $\delta^{18}\text{O}$ data. Each sample measurement (open symbol) is bracketed with two drift standard measurements (Cal1 in the manuscript, filled symbol) and drift corrected using the correct formulation of equation 3 (see above).

Furthermore, Equation 10 was also corrected to:

$$\sigma_{f_{N_2}} = \frac{f_{N_2} \cdot \sigma_i}{|\varepsilon| \cdot \sqrt{n}}$$

The uncertainty was recalculated accordingly and the associated text changed to:

"The low DO concentration setpoint of 0.5 mg L⁻¹ led to an increase in f_{N_2} by 40 % (± 1.7 %) compared to [...]"