

## ***Interactive comment on “Oxygen isotope ratios in the shell of *Mytilus edulis*: archives of glacier meltwater in Greenland?” by E. A. A. Versteegh et al.***

**B. R. Schöne (Referee)**

schoeneb@uni-mainz.de

Received and published: 1 October 2012

This is a solid study. Well-done! The subject is relevant for evaluating the effects of modern global warming on Greenland glacier melt rates and, therefore, of broad interest. It fits nicely to the scope of BGD. I have only a few minor comments.

(1) Replace “kitchen middens” by “archaeological shell middens” or “archaeological shell middens and shell-bearing deposits”; throughout text, occurs at least four times.

(2) Introduction. Since your paper is on GriS melting, I would start the Introduction with this topic (as you did in the Abstract). Explain the limitations of current reconstructions and the need to have data on past melting intensity, then present a possible solution,

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i.e., by using shell sclerochronology...

(3) P. 12023 and wherever else in the ms, “ $\delta^{18}\text{O}$  analyses”. What you have analyzed is the relative abundance of  $^{18}\text{O}$  and  $^{16}\text{O}$ , what you have computed are  $\delta^{18}\text{O}$  values. Please rephrase.

(4) P. 12024, line 22: delete one period after Micromill.

(5) P. 12025, line 1: “analytical uncertainty”:  $1\sigma$ ?

(6) P. 12025, lines 5-6: Eq. 2 applies only to calcitic shells. . . Consider rephrasing.

(7) References. Be consistent. Abbreviate journal names or write the fully out. If you abbreviate them, please refer to internationally valid abbreviation rules for journals. E.g., <http://www.bioscience.org/atlas/jourabbr/b.htm>

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Interactive comment on Biogeosciences Discuss., 9, 12019, 2012.

**BGD**

9, C4407–C4408, 2012

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