

***Interactive comment on “Temperature effects on carbon-specific respiration rate and sinking velocity of diatom aggregates – potential implications for deep ocean export processes” by M. H. Iversen and H. Ploug***

**Anonymous Referee #1**

Received and published: 25 February 2013

This is an interesting and highly relevant paper that provides insight into how remineralization of POC flux changes with depth in the oceans. The study is a nice addition to existing results that are in the literature. The methods are well explained, and the discussion is insightful. The graphs are well done and convey their information well.

One point that confused me somewhat is on page 380: Why should disaggregation of the large aggregates occur in the 15C treatment? Had the aggregates grown too large (Kolmogorov scale issues) or did something else happen?

C142

There are a few typos that should be corrected and places where a more unambiguous wording could be chosen. For example,

page 378: line 5. Is Cd really defined by equation (1)? It is calculated using equation (2)

Under the section "Aggregate TEP concentration", this was a bit confusing: TEP increased from 0.3 to 8  $\mu$ g but in which particles? 1 - 5 mm aggregates?

---

Interactive comment on Biogeosciences Discuss., 10, 371, 2013.