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Biogeosciences Discussions

Interactive comment on "Stoichiometries of remineralisation and denitrification in global biogeochemical ocean models" *by* A. Paulmier et al.

A. Paulmier et al.

apaulmie@mpi-bremen.de

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Reply to the Editor:

The editor comment is in italics, whereas our response/action is described in roman font.

1) It would be interesting to include in your manuscript how alkalinity is affected by the different processes and how alkalinity is handled by the models.
We fully agree with the editor, and we actually had tried to include the impacts on

alkalinity already from the very start of our work. Unfortunately, it turned out to be extremely difficult to find out what exactly is done in the different models in terms of denitrification effects on alkalinity. We are currently investigating the possible magnitude of the impact in one of the models (UVic - SCHMITTNER), but feel that this becomes a more substantial amount work that goes beyond that covered in the present paper. Nevertheless, we included the effect of the different processes on alkalinity in the theoretical part of the present paper, and added a sentence in the conclusion to say that this is an issue which should be investigated in more detail but which also needs more information about the biogeochemical models than is often reported in the available model descriptions.
Additionally, we consider it important to investigate and discuss potential changes in alkalinity due to "soft tissue" (N, P) remineralisation together with changes imposed by CaCO3 formation and dissolution, a topic which would exceed the scope of this paper.

Interactive comment on Biogeosciences Discuss., 6, 2539, 2009.