Geoscientific
Model Development
Discussions

Interactive comment on "Evaluating CaCO$_3$-cycle modules in coupled global biogeochemical ocean models" *by* W. Koeve et al.

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This is intended to be a brief and rapid response to the first review of our manuscript on CaCO3-model evaluation. A more detailed response, for example to the specific comments, will be provided after all reviews are available.

The focus of this paper is to evaluate different methods that can be used for a data-based evaluation of CaCO3 cycle models of the ocean. This method evaluation is performed against a model-internal standard, the explicit TA* tracer.

The data from OCMIP5 models we present at the end of the paper are mainly used as examples. It was not intended to provide a detailed analysis of these models and why

the different models behave like they do. We agree very much with John Dunne that an application of the TA* method to CMIP5 models is a natural next step and in fact we are working on this and plan to provide the results in a follow-up paper. First results will be discussed at the EGU-GA in Vienna in April this year.

We will extend the revised version of the paper by discussing in addition the 'excess alkalinity' method used in Seferian et al. and Dunne et al., as suggested by the reviewer.

We close by thanking John Dunne for his comments and suggestions,

W. Koeve

Interactive comment on Geosci. Model Dev. Discuss., 6, 6117, 2013.