

Interactive comment on “The colonization of the oceans by calcifying pelagic algae” by Baptiste Suchéras-Marx et al.

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The manuscript "The colonization of the oceans by calcifying pelagic algae" by B. Suchéras-Marx et al. describes colonization of the oceans by coccolithophorids since the last 200 M. This well written manuscript is based on the compilation of nanoplankton accumulation rates in sediments, brought in context with previously published species richness, coccolith size as well as atmospheric CO₂. Results indicate a colonization of the oceans in distinct phases, shaped by the reproduction strategy, interactions with other planktonic organisms and the physical environment. The research is original and provides interesting findings to the community. The data set compilation seems to have been carried out with great care, even though, sadly, the available data is confined largely to the Atlantic, therefore I would suggest to maybe

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rephrase the main conclusions of the manuscript from "World Oceans" to "Atlantic". The manuscript is concisely written, however, could benefit from a re-organization of the Discussion paragraph in my opinion, so that each phase is discussed in its own paragraph, instead of discussing the colonization twice in 4.1 and 4.2. I have some reservations regarding the smoothing of the NAR and the seemingly arbitrary reference to sometimes the smoothed trend and sometimes the underlying raw data. The authors should carefully re-examine each time the NAR is discussed and elaborate on when which datatype is discussed (see major comments in the attached review). I would recommend publication of this manuscript after minor revisions have been carried out. I wish the authors good luck with the revisions and remain available for further feedback and discussions.

Please also note the supplement to this comment:

<https://www.biogeosciences-discuss.net/bg-2018-493/bg-2018-493-RC2-supplement.pdf>

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2018-493>, 2018.

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