

Earth Syst. Sci. Data Discuss., author comment AC2  
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## Reply on RC1

Elena Ceballos-Romero et al.

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Author comment on "Revisiting five decades of  $^{234}\text{Th}$  data: a comprehensive global oceanic compilation" by Elena Ceballos-Romero et al., Earth Syst. Sci. Data Discuss.,  
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We are very thankful to all the reviewers for their thorough and constructive reviews. We have addressed all the issues raised by them and used all their suggestions and comments on the manuscript. We believe our revision improved the manuscript and we hope it pleases the three reviewers.

Specific replies to both general and specific comments for the three reviewers are given in 3 separated files file in our reply to each reviewer's comment, and in a single file here.

We would like to generally address several remarks common among the three reviewers in relation to different aspects of new parameters to be included in individual data set.

It is worth mentioning that the amount of data that could be additionally reported in the compilation is very extensive due to the wide applicability that has been shown for  $^{234}\text{Th}$  along the years. However, for the sake of feasibility, we needed to set boundaries to the scope of the compilation and left some parameters out of this first version of the compilation. However, we would like to emphasize the dynamic spirit behind this effort, which will be periodically reviewed and extended. Both new data and information on the availability of sampling methods used complementarily to the  $^{234}\text{Th}$  technique will be included in future versions of the compilation, both evaluating new useful parameters arisen from novel research and following suggestions by researchers.

All the reviewers have provided very good suggestions about parameters that must definitely be implemented in the compilation. Especially considering that these parameters are now included in the data sets of nowadays cruises and programs.

We will definitely include these parameters as improvements in future datasets, as the idea of this compilation is to make annual reeditions. PANGAEA has designed a specific structure for the compilation that allows a customized updating and we have created the webpage ("Sea of Thorium", coming soon) to stimulate the reception of new contributions.

Furthermore, in the reviewed version of the manuscript we have modified Section 5 and now it includes a subsection that it is related with the several aspects of the compilation that will be upgraded in the next edition, following the reviewers' suggestion. We acknowledge the absence of some useful parameters, such as the CTD auxiliary sensors for fluorescence and PAR pointed out by the reviewer as gaps and discuss which parameters will be included in next versions of the compilation.

Please also note the supplement to this comment:

<https://essd.copernicus.org/preprints/essd-2021-259/essd-2021-259-AC2-supplement.pdf>