

Interactive comment on “Modeling the biogeochemical impact of atmospheric phosphate deposition from desert dust and combustion sources to the Mediterranean Sea” by Camille Richon et al.

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Referee#1 is right to consider that having another set of forcings with higher resolution would represent an undeniable improvement for our modelling efforts. Unfortunately this simulation is not conceivable at short term, because such forcings are not available yet. For instance, the Aladin-Climat model used in our previous study, presently does not simulate Phosphate from combustion (it has only P_{dust} at the moment), and this product will not be available soon since this development requires time.

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In order to make progress anyway on our scientific research, we were forced, for a preliminary study to use low resolution forcings, a classical strategy. We comment the limits of this approach in the manuscript and encourage for revisiting our conclusions with more refined forcings in the future. However we consider that our study has revealed some new interesting results, such the spatial difference for the impact of PCOMB and P_{dust} and their relative quantification, that represent new informations that deserve to be presented to our scientific community, as they have an importance for the modelling and the functioning of the biogeochemical cycle of the Mediterranean sea. We hope as well that this preliminary study will motivate atmospheric regional modelling group for producing high resolution more appropriate aerosols deposition field soon.

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