

Interactive comment on “Evaluation of atmospheric nitrogen inputs into marine ecosystems of the North Sea and Baltic Sea – part A: validation and time scales of nutrient accumulation” by Daniel Neumann et al.

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We thank the anonymous referee 2 for the review of the discussion paper "Evaluation of atmospheric nitrogen inputs into marine ecosystems of the North Sea and Baltic Sea – part A: validation and time scales of nutrient accumulation".

We would like to directly reply to the second concern of referee 2 reading:

> As concerns the second aim of the study, to validate a marine ecosystem model, I feel that a more specialized journal like "Geophysical Model Development" would be

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more appropriate because the audience addressed by Biogeosciences is rather broad. I recommend to reject the manuscript and encourage resubmission to a journal that is focused on model description and validation.

We agree with referee 2 that this study ("part A") is clearly focused on the model evaluation/validation. When considered individually, it is more appropriate for journals such as GMD. However, we submitted it in combination with a second discussion paper ("part B"), which is focused on the contribution of nitrogen deposition from different atmospheric emission sources to surface DIN and PON concentrations. Unfortunately, part B of the study (doi: <https://dx.doi.org/10.5194/bg-2018-365>) was not available online when the review of referee 2 was performed.

Originally, both discussion papers were one manuscript, which was very long. Therefore, we decided to split it into two short – still long – discussion papers consisting of part A (model validation and first results) and part B (detailed results and evaluation). We have the feeling that both discussion papers belong together. Discussion paper part B without validation of the model would be questionable. Hence, we hesitate(d) to submit them to two different journals.

We are the users but not the developers of the particular model version, which was used for this study. The actual developers should be the ones to published a detailed validation of their model – getting the credits (and a first-author publication) for the development work. Hence, we limited the validation to the year and to the aspects, which are relevant for our evaluation of nitrogen deposition data, leaving the developers the possibility a publish a full validation in an appropriate journal. If such a publication would be available, we would have omitted submitting discussion manuscript part A and would only have submitted part B (without "part B" in the title).