

Interactive comment on “Modelling nutrient retention in the coastal zone of an eutrophic sea – a model study” by Elin Almroth-Rosell et al.

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First we would like to thank the two reviewers for their helpful and thoughtful comments. In our response we repeat the comments/questions followed by our response. We refer to page + line numbers in the original manuscript if suited.

RC-Referee comment, AR-Author reply

Response to referee #1

RC: My main issue is the lack of discussion of the results with respect to the wider literature. This is probably due to the choice of format that merge the Results with Discussion. A comparison of retention capacity with previous studies is provided (e.g. Figure 14) but the authors should provide a deeper discussion of their results and their

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implications. This would benefit their study and the audience of Biogeosciences.

AR: We agree with the referee and will in the revised manuscript deepen the discussion of the results and their implications. We will also with a wider perspective again search the scientific literature for similar model exercises to which our results can be compared.

RC: Nutrient load decrease during the study which lead to uncertainties in the interpretation of the results. Could the author calculate retention for specific periods (in addition to the 1990-2012 period), i.e. in the earlier and later period of the study, in order to remove the uncertainty about the system not being at steady state? or provide a retention time series for 1990-2012, as in Figure 15? This would also provide information about the change in the system over this period.

AR: Yes, we can include also a figure of the time series for 1990-2012. However, we think that there are enough numbers of figures, which is also commented by referee #2 why we will compromise and re-do figure nr 10. The new figure will show the total external nutrient load as well as the nutrient retention in the entire Stockholm Archipelago. The results which are not already discussed will be included in the discussion to improve the interpretation. The figure is uploaded to the discussion and here called Fig.1.

RC: Specific comments

AR: In the revised manuscript we will gratefully consider all the specific comments and accept the suggestions where appropriate.

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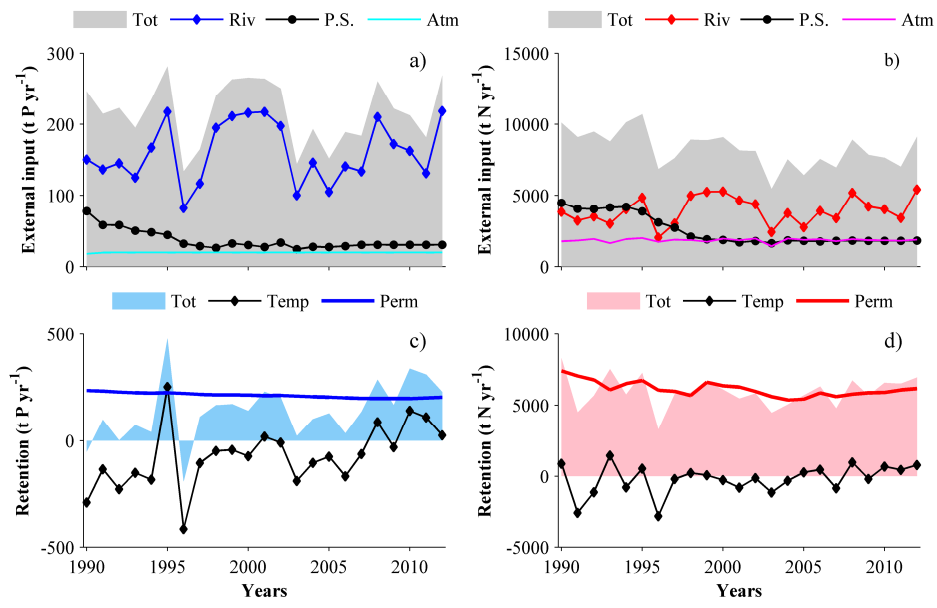


Fig. 1.