Dear Referee,

thank you very much for taking the time to review our manuscript. We appreciate the effort you put into reading our preprint and providing constructive comments. Your feedback and suggestions are very valuable to us to improve the quality of our manuscript and our research. We are taking your comments seriously and will address each one of them comprehensively in our revised manuscript. We will especially try to emphasize the motivation and impact of our study and results. In the following we will address each of your comment with a reply and our planned action. If you have any additional insights or suggestions that you believe would further improve our research, please do not hesitate to share them with us. We look forward to sharing our revised manuscript with you soon.

Greetings from Hamburg

1. There are a couple of issues with the language of the manuscript, e.g., the use (or lack thereof) of definite/indefinite articles, wrong prepositions, wrong punctuation etc. In order to improve the quality of the language, please give the manuscript to a native speaker or send it to a language editing service.

Reply: Thank you for your feedback regarding the language of our manuscript. As none of us is a native speaker, we will send the revised version of the manuscript to a language editing service before resubmitting it.

Action: The manuscript will be sent to a language editing service.

2. *LL13-15: "The results show an increase of tidal range in the Elbe estuary due to SLR and further reveal, that tidal flat growth can have no effect, decrease or increase the tidal range relative to sole SLR."*

   The way this is written, this almost sounds like a non-result. Please describe in more detail in the abstract, which of your investigated scenarios leads to which results.

Reply: Thank you for your comment, possibly the last part of the sentence addresses your concern. The full sentence in the abstract is the following:
LL13-15: "The results show an increase of tidal range in the Elbe estuary due to SLR and further reveal, that tidal flat growth can have no effect, decrease or increase the tidal range relative to sole SLR, depending on the location and amount of tidal flat elevation."
As it seems to be written in a confusing way and less specific, we will rewrite it.

Action: we will change the sentence to:
LL13-15: "The results show an increase of tidal range in the Elbe estuary due to sole SLR and further reveal strongly varying changes due to tidal flat growth scenarios: While tidal flat elevation until the mouth of the estuary can cause tidal range to decrease, tidal flat elevation in the entire estuary can cause tidal range to increase relative to sole SLR."

3. *LL30-32: "However, facing the future acceleration of SLR, is difficult to quantify the amount to which tidal flat growth can keep pace with sea level rise, and it remains questionable, whether present hydromorphodynamic equilibrium will be maintained in the future."*

Please give a reference for the future acceleration of SLR.

Action: We will add a reference:
LL30-32: "However, facing the future acceleration of SLR (Fox-Kemper et al., 2021), it is difficult to quantify the amount to which tidal flat growth can keep pace with sea level rise, and it remains questionable, whether present hydromorphodynamic equilibrium will be maintained in the future."

4. *LL48-49: "The Elbe estuary is the part of the Elbe river extending from the weir in Geesthacht to the North Sea (Figure 5)."*

   Normally, the figure that is referenced first in your manuscript should be Figure 1. In my opinion, a map of the study area also makes sense as Figure 1.

Reply: Thank you for this comment, Figure 1 shows the two model domains and therefore includes the Elbe estuary. We don't want to add another map of the Estuary, as we want to keep the manuscript as short as possible. To refer to Figure 1 first, we will change the previous sentence.

Action: We will change the previous sentence to:
LL47-49: One of the main estuaries in the German Bight is the Elbe estuary (Figure 1), which contains the port of Hamburg and is therefore an important shipping route. The Elbe estuary is the part of the Elbe river extending from the weir in Geesthacht to the North Sea (Figure 5).

5. *LL56-57: "Nowadays the Elbe estuary is an amplified estuary, where the tidal amplitude increases in upstream direction and reaches its maximum close to the port of Hamburg."*

   Is "amplified estuary" a commonly used term? At least I haven't stumbled upon this before. What you describe sounds like a "hypersynchronous estuary" to me (see Nichols and Biggs, 1985).

Reply: Thank you for your input. The term "amplified estuary" is used e.g. by Savenije (2012) and by van Rijn (2011). To me the term "amplified estuary" is more self-explanatory and comprehensible. I therefore would prefer to use it instead of "hypersynchronous estuary".
Action: We would like to keep using the term "amplified estuary".

6. *LL60-61: "The future of the Elbe estuary depends not only on anthropogenic measures implemented on site, but also in particular on sea level rise and its implications."*

   Previously, you have already used the abbreviation SLR for sea level rise. Please use the abbreviation after defining it.

Action: We will change the sentence to:
LL60-61: "The future of the Elbe estuary depends not only on anthropogenic measures implemented on site, but also in particular on SLR and its implications."

7. *LL64-66: "Understanding the future evolution of tidal dynamics due to sea level rise in heavily utilised estuaries such as the Elbe estuary is important for the development of adaptation measures, e.g. in navigation, port infrastructure and water management."*

As far as I understand, this is the main motivation of your study. Accordingly, you should dedicate more than one sentence to this. Please explain in more detail, what impacts might be expected in estuaries in response to SLR. And what processes might be triggered by an amplification of tidal range (e.g., see Winterwerp and Zhang, 2013)? And please also describe in more detail, what this will mean for the future management of the estuary. It might also be useful to briefly address the recent deepening of the Elbe in order to showcase the perspective of different stakeholders on the estuary and how they might be impacted by further developments in the future.

Reply: Thank you for the feedback. There is another sentence about the importance of tidal range in estuaries, which is part of the motivation of the study:
LL90-95: "Tidal range is the double of tidal amplitude and the difference between tidal high water and tidal low water. It is an integral part of the energy flux of a propagating tidal wave. Tidal range in estuaries is closely linked with tidal current velocity, mixing, circulation, sediment transport, water quality and ecosystem communities (Khojasteh et al., 2021). Additionally, it is a parameter which has an influence on navigation in and drainage into the estuary, as well as on the dimensioning of waterfront structures and other hydraulic structures in the estuary (HTG, 2020)."
However, we agree, that the motivation of the study should be discussed in more detail. We will add some sentences about the relevance of an amplification of tidal range and other possible *SLR* responses, which will give an idea of how many different stakeholders could be affected.

Action: following sentences will be added before line LL64-66:
"SLR will not only simply raise water levels in estuaries, but can also cause changes in the variations of water level. The increase in water levels can help deep-drafted vessels to navigate the estuary fairway, but, at the same time, can hinder ships to pass beneath bridges due to reduced clearance. Changes in low tide levels can lead to difficulties in drainage into the estuary and can therefore impact agriculture in the hinterland, navigation in connected channels and tributaries and urban drainage systems (Khojasteh et al., 2021). Changes in water level and variations of water level (low tide and high tide levels) are moreover relevant for the dimensioning of waterfront structures and other hydraulic structures in the estuary (HTG, 2020). Changes in water level and tidal range can furthermore change the inundation time of intertidal area and can increase or decrease the location and extension of intertidal area, which can impact biodiversity and agriculture.
Other possible SLR induced changes in tidal dynamics besides an increase or decrease of tidal range are, changes in current velocities and in tidal asymmetry and therefore e.g. enhanced flood dominance, which can cause an increase in sediment import. Increase of tidal range and tidal asymmetry can cause fine sediments to be pumped into the estuary, which can reduce hydraulic drag and in turn cause an increase in tidal amplification and eventually lead to a hyper-turbid-state (Winterwerp and Wang, 2013). Such changes in sediment dynamics can impact biodiversity and create economic challenges due to the siltation of navigation channels. SLR can also increase saltwater intrusion into an estuary due to an increase in tidal prism and water depth, which can affect e.g. ecosystems, aquifers and agriculture (Khojasteh et al., 2021). Understanding the future evolution of tidal dynamics due to SLR in heavily utilised estuaries such as the Elbe estuary is therefore important for the development of adaptation measures, e.g. in navigation, port infrastructure and water management."

We will change the paragraph LL91-95 to:
Our objective is to investigate how tidal range along the Elbe estuary is influenced by

potential future SLR and tidal flat growth scenarios. Tidal range is the double of tidal amplitude and the difference between tidal high water and tidal low water. It is an integral part of the energy flux of a propagating tidal wave. As mentioned before, it is a parameter which has an influence on navigation in the estuary and drainage into the estuary, as well as on the dimensioning of bank structures. Moreover, tidal range in estuaries is closely linked with tidal current velocity, mixing, circulation, sediment transport, water quality and ecosystem communities (Khojasteh et al., 2021). We therefore focus on this parameter, which is, compared to the other mentioned parameters, a highly reliable result of hydrodynamic numerical simulations.

8. *LL136-137: "Sea level rise is added at the open boundary of the German Bight Model."*

   Why haven't you added the sea level rise at the boundary of the Dutch continental shelf model? Isn't the boundary of your German Bight model in areas, where tidal constituents will already be significantly impacted by SLR? Please discuss the effect of your assumption/simplification.

Reply: Thank you for your comment. As we add *SLR* at the open boundary of the German Bight model, *SLR* induced changes at the model boundary are neglected in our study. Previous research by Jordan et al. (2021) shows large-scale changes of the M2 amplitude in the North Sea due to *SLR*. Referring the results of Jordan et al. (2021) to our model boundary, we neglect changes of the M2 amplitude in the range of less than ±2 cm. Ideally *SLR* could be added at the boundary of the shelf model to consider changes in tidal dynamics in the continental shelf seaward of the German Bight Model boundary. However, this approach is not suitable in our case, since the resolution of the *DCSMv6FM* is insufficient for estimating *SLR* induced changes (Rasquin et al., 2020). In our opinion, further research is needed regarding the required resolution of a hydrodynamic numerical model when simulating the effect of *SLR* in the North Sea. Such a study would require several models with increasingly higher resolution, to determine a resolution condition after which *SLR* induced changes remain approximately the same. Furthermore, the aim of our study is to understand effects of *SLR* and tidal flat elevation on tidal dynamics in the Elbe estuary. Our results might show an incomplete picture of future changes due to *SLR*, as we neglect large scale changes arising in the North Sea. However, this deficiency can also be an advantage as helps to understand the distinct regional changes and therefore improve a system understanding.

Action: We will add the following sentences after the line *LL136-137* to explain why we added SLR at the German Bight model boundary:
"Sea level rise is added at the open boundary of the German Bight Model, therefore SLR induced changes in tidal dynamics seaward of the German Bight are neglected. Ideally SLR could be added at the boundary of the shelf model to consider changes in tidal dynamics in the continental shelf seaward of the German Bight Model boundary. However, this approach is not suitable in our case, since the resolution of the DCSM is insufficient for estimating SLR induced changes (Rasquin et al., 2020)."

We will also add the following sentences in the discussion to discuss the effect of our simplification:
In our study, SLR induced changes in tidal dynamics seaward of the German Bight model are neglected. Previous research by Jordan et al. (2021) shows large-scale changes of the M2 amplitude in the North Sea due to SLR. Referring the results of Jordan et al. (2021) to our model boundary, we neglect changes of the M2 amplitude in the range of less than ±2 cm. However, we assume the neglection of the changes at the German Bight model boundary not to be of importance for the key results of our

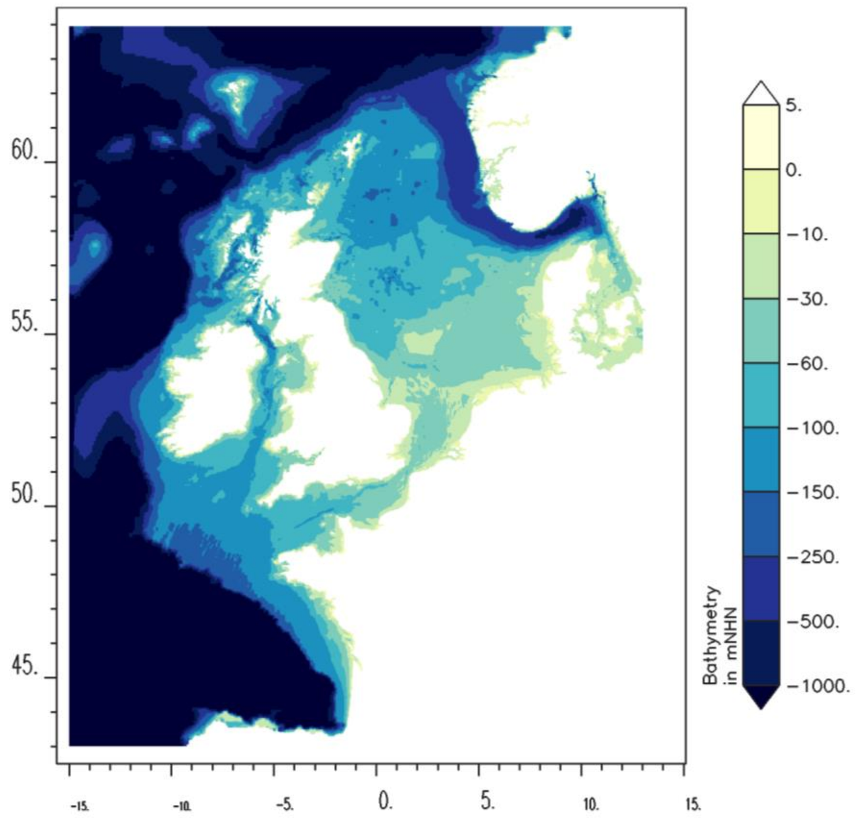
study, which aims to improve the system understanding of SLR and tidal flat growth induced changes in the Elbe estuary."

9. *Figure 1.*

   Please use a different colourbar for the left panel. When showing the European Continental Shelf with water depths of several thousand meters, it doesn't make sense to limit your colourbar to 37.5 m. Furthermore, when using different panels, they should be labelled by using (a), (b), (c), etc. This also applies to most of your other figures.

Reply: You are right. We will gladly implement your comment.

Action: We will add panel labels and will replace the figure of the DCSMv6FM Model with a figure with better colourbar.

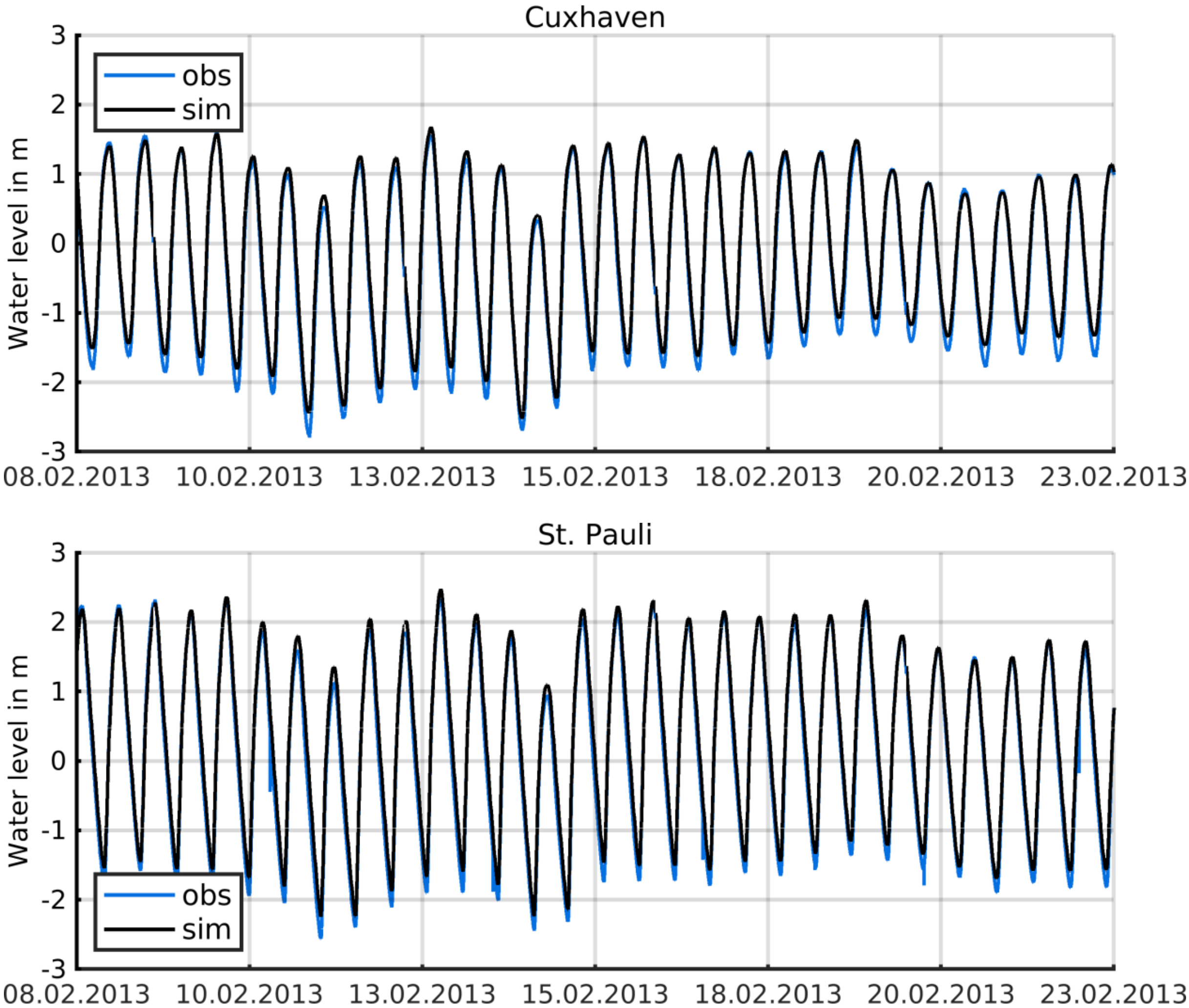


10. *Figure 2.*

    Why are only three days shown here? Why isn't a whole spring-neap cycle shown? Is the performance of the model better/worse during different phases of the spring-neap cycle? Even though you mention that the validation of the model is presented in another paper, it also wouldn't hurt to briefly describe the model quality here in terms of selected parameters (e.g., what is the mean RMSE across all tide gauges in the model domain).

Reply: We decided to show only three days, because the differences in the shape of the curves would not be clearly visible otherwise. However, as you mentioned, it could be of interest to see an entire spring-neap-cycle and possible variations in the performance. Therefore, we will add two figures of an entire spring-neap cycle in the appendix. We will also add information about the mean RMSE, BIAS and a skill-score after Willmott et al. (1985) of 39 tide gauges in the model domain.

Action:
Figures of an entire spring-neap cycle will be added to the appendix.



We will add the following sentence after LL156:
"A similar display for an entire spring-neap-cycle can be found in the appendix. It shows no distinctive differences in the performance during different phases of the displayed spring-neap cycle."

We will add the following sentence before LL150:
"To compare the simulation results with observations, we simulated seven spring-neap-cycles between January and April 2013 with measured river discharge provided by the Federal Waterways and Shipping Agency (WSV, 2022). ***The comparison of water level between model results and observations at 39 gauges in the model domain for this period reveals a mean RMSE of 16.4 cm, a mean bias of 7.3 cm and a mean skill-score after Willmott et al. (1985) of 0.993.*** *Further analysis on model performance can be found in Rasquin et al. (2020). Since the focus of our study is on the Elbe estuary, a brief validation of the model in this specific region is presented below."*

11. *Figure 3.*

Apparently, the dashed-lines indicate certain cross-sections along the estuary that are shown in Figure 5. This should be explained. For readers not being too familiar with the Elbe Estuary, it could also help to use labels that highlight the location of the different sections along the river (e.g., "outer section", "mouth section", etc.).

Reply: I am not sure, if I understand your comment correctly. I think such labels are already displayed in most of the figures. However, they are not yet displayed in Figure 3, as the subdivision into sections is explained afterwards in 2.3.1: "*[…]. Furthermore, the estuary is roughly divided into five sections, which are displayed in Figure 5 and named (from west to east): outer section, mouth section, lower section, Hamburg section and upper section."* We will also add such labels in Figure 3.
Action: Labels for the subsections will be added in Figure 3.

12. *LL320-323: "The scenarios with SLR of 55 cm are not visualised and analysed in detail."*

Even if the scenarios with a SLR are not visualized in detail, they should nevertheless be described/discussed in a little more detail. Otherwise, one might ask the question, why you mention the scenarios with a SLR of 55 cm at all?

Reply: Thank you for your comment. We have chosen not to visualise and describe the scenarios of SLR 55 cm in detail, as that would have strongly expanded the length of the manuscript. However, we wanted to determine, if the changes due to *SLR* are in principle similar for a different *SLR* scenario. Therefore, we show a comparison of the change of max. *TR* relative to reference condition for the two *SLR* scenarios in Table 2. The focus of this study lies on the interrelation between SLR, changes in estuarine geometry and changes in tidal dynamics. As we write in the discussion: *"[…]TR shows qualitatively similar changes in the scenarios with SLR of 55 cm, those are assumingly induced by similar alterations in estuarine geometry as for a SLR of 110 cm."* We are planning to further examine the different changes due to varying SLR scenarios in future studies. We will add some more sentences regarding the SLR55 scenarios in the results part.

Action: We will edit the following parts:
LL320 following*: "Hereinafter we focus on the results of the scenarios with 110 cm SLR to gain a better system understanding. The scenarios with SLR of 55 cm are not visualised and analysed in detail,* ***but are included to determine whether the changes due to SLR are in principle similar for a different SLR scenario."***
LL336 following*: "For all scenarios, the maximum value of TR along the estuary is reached in the Hamburg section. Table 2 lists the changes in max. TR relative to reference condition (max. TR = 3.87 m) for all simulated scenarios* ***with SLR 110 cm as well as SLR 55 cm****.* ***Max. TR increases by 6.5 cm for a SLR of 55 cm and by 12.5 cm for a SLR of 110 cm, which is about 11-12% of the respective SLR. Both SLR-scenarios with 100% tidal flat elevation in scenario A (slr55t55 and slr110t110), show an increase in max. TR less than with sole SLR, while both SLR-scenarios with 100% tidal flat elevation in scenario B (slr55t55e and slr110t110e), show an increase in max. TR greater than without tidal flat elevation.***
LL441 following*: "As a simple explanation for these various changes of TR in the different simulated scenarios is not apparent at first glance, changes of estuarine geometry are analysed to derive explanatory approaches. The analysis is conducted for the reference condition and all*

scenarios with 110 cm SLR. ***As shown in Table 2, max. TR*** *shows qualitatively similar changes in the scenarios with SLR of 55 cm****. It can therefore be assumed, that*** *those changes are induced by similar alterations in estuarine geometry as for a SLR of 110 cm.*
We will add in the discussion*: "* ***We selected the SLR scenario of 110 cm with corresponding hypothetical tidal flat elevation scenarios which we analysed in detail. For scenarios with 55 cm SLR we found qualitatively similar changes in max. TR and therefore assume similar alterations in estuarine geometry. However, to ensure that our results are in principle applicable to other SLR scenarios than 110 cm, it would be necessary to simulate a range of several SLR scenarios and their corresponding tidal flat growth scenarios and analyse the changes of tidal dynamics and estuarine geometry for each of them."***

13. *Figure 8.*

    I first had to take a closer look at Figure 5 to understand why there are so few markers in the "Hamburg section". In my opinion, it would help to explain that the whole city of Hamburg is considered as one control volume (thus being relatively large in comparison to neighbouring control volumes).

Reply: We will add a sentence to explain the large control volume containing the two branches of the Elbe estuary in the region of Hamburg.

Action: the following sentence will be added after LL196:
"As the Elbe estuary splits into two branches, which reunite again close to the port of Hamburg and enclose the island of Wilhelmsburg, this region is contained in one relatively large control volume compared to the other control volumes."

14. *L367: "To access the rate at which cross-sectional-flow-area of an estuary decreases in upstream direction, the geometric parameter convergence length (L_a) is calculated by fitting an exponential function (Eq. (2)) to the data sets (see 2.3.3)."*

    Do you really mean "to access" or should it be "to assess"?

Reply: Thank you for the note. We mean "to assess" not "to access". We will correct the term in L367 as well as in L99 and we will send the manuscript to a language editing service.

Action: we will correct L367 and L99 accordingly.

15. *Table 3.*

    I don't quite understand, why you compare scenario "slr110t0" to your reference scenario and all other scenarios to "slr110t0"? Why not comparing all scenarios to the reference scenario? Otherwise one might ask, why you don't show all the possible scenario combinations (e.g., "slr110t110e" to "slr110t55e", etc.)? Due to the presented changes in A_0 and L_a, it should still be possible to see that the differences between certain scenarios are negligible (e.g., "slr110t110e" to "slr110t0").

Reply: Thank you for your comment. Initially we decided not to show all comparisons of all possible combinations of scenarios to keep the manuscript short and clear. In the discussion

part (4.4) we try to answer the following three questions:
1. Why does sole SLR without topographic changes causes tidal range to increase in the Elbe estuary?
2.Why does SLR with tidal flat elevation in the mouth of the estuary causes no changes or a decrease in tidal range compared to sole SLR?
3. Why does SLR with tidal flat elevation in the entire estuary increases tidal range compared to sole SLR?
As these are the main questions we want to answer, we choose the combinations accordingly in the analysis of the differences in convergence length. However, after thinking about your and the other referees comment, we decided to additionally show the combination of all scenarios to reference condition.
We decided to change the paragraph LL375following.

Action: We extent Table 3 in the following way:

Scenario	A_0 in m^2	p-value of A_0	L_a in km	p-value of L_a
ref	78.5 x10^3	<0.001	46.3	<0.001
slr110t0-ref	+23.3 x10^3	<0.001	-4.9	0.026
slr110t110 – ref	+11.4 x10^3	<0.001	-0.92 (n.s.)	0.690 (n.s.)
slr110t110e - ref	+11.6 x10^3	<0.001	-1.62 (n.s.)	0.475 (n.s.)
slr110t55- ref	+18.5 x10^3	<0.001	-3.56 (n.s.)	0.102 (n.s.)
slr110t55e- ref	+18.6 x10^3	<0.001	-3.94	0.068
slr110t0	101.7 x10^3	<0.001	41.4	<0.001
slr110t110 - slr110t0	-11.9 x10^3	<0.001	+4.0	0.070
slr110t110e - slr110t0	-11.6 x10^3	<0.001	+3.3 (n.s.)	0.130 (n.s.)
slr110t55- slr110t0	-4.8 x10^3 (n.s.)	0.134 (n.s.)	+1.3 (n.s.)	0.519 (n.s.)
slr110t55e- slr110t0	-4.6 x10^3 (n.s.)	0.148 (n.s.)	+1.0 (n.s.)	0.642 (n.s.)

Action: We will change paragraph LL375ff in the following or similar way:
"The derived convergence length (La) of the Elbe estuary for the mean cross-sectional-flow area (A) of the spring-neap-cycle is 46.3 km in the reference condition and 41.4 km in the scenario slr110t0. Depending on the p-value for the difference of La between two scenarios, the null hypothesis of no change in convergence length La can, or cannot be rejected. We decided to consider a significance level of α=0.1. For the difference between La of scenarios slr110t0-ref the null hypothesis can be rejected. The detected significant decrease of La indicates a stronger convergence, hence a stronger rate of decrease of A in upstream direction due to SLR of 110 cm. The results further show, that in scenario slr110t110, convergence is significantly weakened compared to scenario slr110t0 and not significantly different compared to the reference scenario. For the difference between the scenarios slr110t55-ref we detect a significant decrease in La and hence a stronger convergence. For the scenarios slr110t55 and slr110t110e we cannot detect a significant change of La relative to the reference scenario nor to slr110t0. However, the results for La and their p-values indicate that La of slr110t110e is is *larger than for slr110t0 and very similar to the reference condition while La for slr110t55 is similar to slr110t0."*

16. *Figures 9 & 10.*

It is not described, what the different lines represent. I presume it is the mean of all control volumes in a section, right?

Reply: Thank you for your comment. Yes, the markers represent the value of each control volume, while the lines represent the mean values of the sections.
Action: we will change the Figure description in the following way:
Figure 9: Relative change of mean hydraulic depth (ht top and hc bottom) in each control volume ***(markers)*** *and each section* ***(lines)*** *relative to reference condition for scenario slr110t0 (dark blue rhombuses), slr110t110 (light blue squares), slr110t110e (green triangles). (The results of scenarios slr110t55 and slr110t55e are not shown in the figure for better readability)*
Figure 10: Relative intertidal area (top) and relative change in relative intertidal area (bottom) in each control volume ***(markers)*** *and section* ***(lines)*** *along the estuary for scenario ref (black circles), slr110t0 (dark blue rhombuses), slr110t110 (light blue squares), slr110t110e (green triangles). (The results of scenarios slr110t55 and slr110t55e are not shown in the figure for better readability)*

17. *Figures 11 & 12.*

> You use different types of lines and colours in these figures, which are not explained. In Figure 12, it also isn't mentioned, what S_{INT}' and MW' stand for.

Reply: We will add a better Figure description; however, S_{INT} and MW are already defined in section 2.3.

Action: We will change the figure description in the following way:
Figure 11: Schematic display of SLR in estuary cross-sections (left) and schematic plan view of an estuary (right). For two cross-sections with large (1) and small (2) S_{INT}. The cross-sections show the MW as black lines for a reference scenario (dark blue), and two SLR scenarios (light blue and light green).
Figure 12: Schematic display of SLR in estuary cross-sections and its resulting change in intertidal area (S_{INT}) for different topographic gradients between high water (HW) and low water (LW). The left side of the figure shows a low gradient, while the right side shows a higher gradient. The black lines correspond to the MW for the reference condition (dark blue) and SLR (light blue). All parameters with an apostrophe belong to the scenario with SLR. The dashed grey lines are showing HW and LW for both scenarios, while the coloured dotted lines show S_{HW} and S_{LW}.

References

Fox-Kemper, B., Hewitt, H. T., Xiao, C., Aðalgeirsdóttir, G., Drijfhout, S. S., Edwards, T. L., Golledge, N. R., Hemer, M., Kopp, R. E., Krinner, G., Mix, A., Notz, D., Nowicki, S., Nurhati, I. S., Ruiz, L., Sallée, J.-B., Slangen, A., and Yu, Y.: Ocean, Cryosphere and Sea Level Change., In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, 6, S.1211-1362, doi:10.1017/9781009157896.011., 2021.

HTG: Empfehlungen des Arbeitsausschusses "Ufereinfassungen" Häfen und Wasserstraßen EAU 2020: (inkl. E-Book als PDF), 12. Auflage, Ernst Wilhelm & Sohn, Berlin, 700 pp., 2020.

Jordan, C., Visscher, J., and Schlurmann, T.: Projected Responses of Tidal Dynamics in the North Sea to Sea-Level Rise and Morphological Changes in the Wadden Sea, Front. Mar. Sci., 8, 40171, doi:10.3389/fmars.2021.685758, 2021.

Khojasteh, D., Glamore, W., Heimhuber, V., and Felder, S.: Sea level rise impacts on estuarine dynamics: A review, The Science of the total environment, 780, 146470, doi:10.1016/j.scitotenv.2021.146470, 2021.

Savenije, H. H. G.: Salinity and Tides in Alluvial Estuaries: Second Completely Revised Edition, 2.6th ed., 2012.

van Rijn, L. C.: Principles of fluid flow and surface waves in rivers, estuaries, seas, and oceans, Edition 2011, Aqua Publications, Amsterdam, 2011.

Willmott, C. J., Ackleson, S. G., Davis, R. E., Feddema, J. J., Klink, K. M., Legates, D. R., O'Donnell, J., and Rowe, C. M.: Statistics for the evaluation and comparison of models, J. Geophys. Res., 90, 8995, doi:10.1029/JC090iC05p08995, 1985.

Winterwerp, J. C. and Wang, Z. B.: Man-induced regime shifts in small estuaries—I: theory, Ocean Dynamics, 63, 1279–1292, doi:10.1007/s10236-013-0662-9, 2013.