We thank the second reviewer for her/his effort on the review and for the helpful suggestions.
In the following you find our answers and thoughts to your questions and remarks.

1. Methods and model description. The studies relies on two models. In the description of the models (sections 2.1 and 2.2), it seems that the simulations are done taking into account meteorological forcing, offshore salinity and river discharge. No information is provided on these conditions. In addition, if the regional model accounts for the salinity on its offshore boundary, we can guess that the river salinity is also accounted for.
Nothing is said, no value is given. Thus, the manuscript really required improvement on the description of the simulations (input conditions) and justification. Indeed, for the purpose of the study, why using 3D baroclinic simulations rather than 2DH simulations? Nothing is said.

> *Thank you for your careful reading. We added the missing information on the boundary and initial conditions in the model descriptions.*
> *3D baroclinic simulations allow taking into account stratification and variations in density which have a major influence on salt intrusion and distribution. We decided to include salt in the model since it is an important parameter for modelling tidal dynamics especially in the estuaries and near the mouths of the estuaries.*

2. Validation. First, the manuscript should provide the validation period over which they validate the tide. Second, even if they do not state it, the authors assume indirectly that the regional model (at high resolution) is better than the shelf model (at low resolution) to reproduce tide changes induced by sea-level rise. To support this assumption, a comparison of observed past tide change trends (using for instance literature results on tide gauges located in the study area) and results obtained simulating an additional and more moderate sea level rise scenario of e.g. 0.2 or 0.3 m, would be useful, with all the limits that such comparison has (additional mechanisms can contribute also modify the tide). But, as in Schindelegger et al. (2018), this would reinforce the paper.

> *We added the validation periods in section 2.3 Model validation..*
> *One of the main statements of the paper is that the shelf model (DCSMv6FM) and the regional model (GBM) show different responses to MSLR and that these different responses can be attributed to the different resolution of bathymetric information included in the models. Thus at least one of the two models does not simulate the correct response to MSLR. However, both models are likely incorrect. Especially, due to several uncertainties (e.g. missing morphodynamic processes) both model simulations are not able to predict the future response of the tidal dynamics to MSLR. Nevertheless, you are right, we assume that the regional model (with high resolution) simulates the response to MSLR more correctly than the shelf model (with low resolution) under the given boundary conditions (morphostatic simulations, high dikes at their current position). The assumption, that the regional model is more reliable, is based on the fact that physical processes are represented more accurately in the regional model (see e.g. Figures on current speed). We clearified this aspect at the end of the discussion section.*
> *A comparison of observed past tide change trends and model results with a moderate sea level rise scenario is difficult. In contrast to the model results observed past tide change trends include several factors that are not incorporated in the model simulations. Such factors are natural and anthropogenic morphodynamic changes as well as engineering measures (e.g. construction of embankments, construction of flood barriers). These factors, however, influence especially tide gauges closely located at the coast. Other challenges are vertical land motion and the natural variability caused by the meteorology in oberservational data. Also Schindelegger et al. (2018) found that the comparison of oberservational data and model results on the European Shelf is complicated by factors (e.g. dredging) not incorporated in the model simulations.*
> *In general, the comparison of model results with observed past tide change trends is an important basis for reliable future projections. In the light of the uncertainties mentioned we do not attempt to make future projections in this study. However, the comparison of model results*

with observed past tide change trends in the German Bight is a challenging and important research question that should be pursued in further studies.

3. Sensitivity of the tide changes to the bathymetric resolution. The manuscript would strongly benefit from a real sensitivity study of the tide changes to the bathymetric resolution, by investigating different bathymetric resolutions with the regional model, and not only the one corresponding to the shelf model. This would allow identifying if there is a bathymetric resolution below which there is no further improvement. Such result would allow the authors to make recommendations for the German Bight, and would strongly increase the impact of the work.

Thank you very much for this comment. We completely agree that an advanced sensitivity study would support further understanding of this topic.
However, due to the unstructured computational grid that has different resolutions in different regions, the generation of computational grids with different resolutions is complex and not straightforward. Furthermore, the subgrid technology used in the regional German Bight model plays a crucial role. It allows to specify bathymetric details at a much higher resolution compared to the computational grid. With the subgrid option the accuracy of the simulation results can be improved when using the same classical computational grid. As shown in Sehili et al. (2014) different resolutions of the computational grid (within a certain range) do not influence the simulated results when using the subgrid option. Thus we suppose that a different resolution of the computational grid would not change the basic results. A sensitivity study investigating different grid resolutions and the role of bathymetric subgrid information, however, is an interesting research question for further studies.
We added this idea and some thoughts on subgrid in the discussion section. In the model description of the German Bight Model more information on subgrid is given.

References

Schindelegger M, Green JAM, Wilmes S-B, Haigh ID (2018) Can we model the effect of observed sea level rise on tides? J Geophys Res Oceans. https://doi.org/10.1029/2018J C0139 59

"On-line" Remarks

P1-Line 27: "flat" -> in most of the paper, the authors use "flat". I think that "low lying" is more relevant

We have changed it in this context. Later on we aim for the profile which is better described with "flat" in the Wadden Sea.

P1-Line 27: add a reference to figure 1 and figure 2 (German Bight).

Changed in the manuscript

P1-Line 29: "estuaries." -> reference?

We added a reference in the manuscript.

P1-Line 29 -> P2, line 5: would better fit in the discussion section? Or remove it?

This text passage is part of the motivation why it is important to investigate how mean sea level rise influences tidal dynamics in the German Bight. We revised this part of the manuscript and hope that this intention is now clearer and that it now fits better to the rest of the introduction.

Figure 4: hard to see the green star and blue points ! make a zoom for _RMSE=0 to 0.5

Figure added in the manuscript

P15, line 5: make clear what is the mean current velocity. Is it the M2 - depth averaged current velocity? Is it the M2 depth averaged current velocity averaged over a given period (and is so, which period?)

It is the depth averaged mean current speed analysed over a spring-neap-cycle in July 2010. We added this information in the manuscript.

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