

Reply on RC3

We thank Referee #3 for the constructive comments that have helped us to clarify and improve our manuscript. Our responses to the specific questions/requests (in **bold & italic**) are listed below.

Assessment:

L125-130: What species was attributed to the stabilizer functional group? It might be obvious, but there is no mention of the species attributed to the seagrass functional group either.

Thanks for pointing out that unclear message. We think the confusion is caused by naming this section *mapping of benthos* and then multiple species are mentioned with their functional group, except for Seagrass and Stabilizers. However, this section only deals with macrobenthos. The section title has been updated to clarify this. The species related to Seagrass and Stabilizers are mentioned multiple times in the main text (Seagrass: Lines 111, 220, 306; Stabilizers: Lines 198, 301). In order to increase clarity we have added two sentences summarizing all functional groups with their respective species in line 122-125:

*Biomixers and accumulators consist of macrobenthos while stabilizers are represented by a biofilm which is mainly assembled by microphytobenthos (MPB) of all contributing species. The seagrass present in Jade Bay belongs to the species *Zostera noltii* (Adolph, 2010).*

The sinusoidal behavior of the seasonality shown in Table 3 is unclear. Is the lowest seasonal value no biomass (complete die-off)? or certain minimal critical biomass remains?

In the original text, the sinusoidal behavior of the seasonality is first introduced in line 151-153 which simply refers to Table 3. Further details of the implementation are described in chapter 3.2.1 in line 193-196. To make the description clear in its first appearance, we have added a reference to section 3.2.1 in line 155-156.

There is no discussion on how seagrass can alter the composition of the sediment by organic sediment accumulation beyond the hydrodynamic behavior.

We have added discussion of this effect (see below) with two corresponding references in line 571-576:

The impact of seagrass is prominent in close vicinity to the meadows but not so much within the meadow itself. One explanation is that the effect of organic sediment accumulation due to primary and detritus production and root and rhizome formation, which are main sources for sediment production (Garcia et al., 2003), was not considered in this study. The found changes close to the meadows are in line with measurements indicating differences in bed level elevation between vegetated and non vegetated areas in the range of 3 cm per year (Potouroglou et al., 2017).

L550: I suggest the authors include a brief description of the conceptual model introduced in Figure 10. I recommend making the arrow nomenclature consistent. For instance, deposition/erosion is not clearly identified in the sketch. The subfigures also lack alphabetic labeling.

We agree that deposition and erosion are not clearly distinguished in Figure 10. For this reason we have added an explanation for the red arrows in Fig. 10 (curved arrows describe sediment

redistribution (e.g. from tidal flats to tidal channels) while straight arrows indicate vertical erosion/deposition) and in the text Line 552-554 (see below):

The different impacts of the mentioned functional groups in the Jade Bay are depicted in simplified form in Figure 10 where sediment redistribution (e.g. from tidal flats to channels) and vertical erosion/deposition patterns are distinguished.