Reviewer 1 Comments

Figure 1 is not even referenced in the Introduction and quickly mentioned in the discussion.

The non-reference to this figure was an error having been left out from an earlier draft. This error has been rectified and the figure is now referenced in the Introduction and Section 2 (l.28 and l.142-143). Additionally, an adjustment has been made to where it was originally referenced in Section 3 (l.358).

In Figure 1, the response of the benthic community is hypothesized to vary according to the location along the flow path and according to the timing from initial disturbance but the presentation of results that follows is not structured according to these hypotheses.

Figure 1 is intended as a summary of the forces along a hypothetical turbidity flow path, and how these interplay with response patterns in benthic productivity and diversity. We have structured our review on two previously published hypotheses, for productivity and diversity, and have used the figure (in addition to use in the Introduction) to help illustrate some of the potential controlling forces that relate to these hypotheses in Sections 2 and 3.

This Figure 1 might be better moved to the conclusion as an outcome of the review underlying the factors that may influence the response of benthic communities and the absence of clear patterns if turbidity flows are considered without specifying the erotional/depositional context nor the history/frequency of the flows.

We agree with the reviewer that the figure should be referenced in the Conclusion (in addition to earlier sections), as a reminder for the reader that one of the outputs of this review is a useful summary of turbidity flow structure and physical processes, and their influences of turbidity flows on benthic communities. References to Figure 1 are now throughout the text (l.28, l.143-144, l.358, l.410, l.411, and l.421).

In Figure 2, because seabed mining in the deep sea rises a number of concerns, including the potential impacts of mining plumes, it might be interesting to develop the justifications for plotting seabed mining with a rather low frequency and extent of disturbances. According to the literature, a plume of sediments due to nodule mining might have an impact over hundreds of km2 for daily operations lasting for decades (e.g. Glover et al. 2001).

We only included the direct disturbance of mining (reason for the small ellipse) in the figure, but the reviewer is correct that we should have also included the potential disturbance from the mining plume. We have now updated the ellipse for seabed mining in Figure 2.

l.248-249 "there is evidence that the biomass but not the abundance of all faunal size classes is higher in turbidites than in nearby pelagic sediments" But there is also evidence that biomass was not significantly different between turbidite and pelagic (see l.239). To avoid any bias in interpretation I would suggest to delete this sentence.

We have amended the sentence to clarify our point that there is "some" evidence, i.e., the evidence is equivocal (l.266).

l.335 It might be interesting to underline here that carbon content, oxygen and ammonium are related to early diagenetic processes along a gradient of redox conditions so all of these measurements provide proxies for OM degradation.

We agree, and have added a sentence to acknowledge the process noted by the reviewer (l.332-334).

Figue 4 It is not clear how contradictory patterns in abundance and biomass were classified in the "Both" graph, some details might be needed. For example small-size opportunists may proliferate with no influence on biomass, how this will fit into Increase, Decrease or No Change?

On consideration of this comment, it is evident that it is not necessary to include the 'Both' category (which is just a sum of the other two categories), so we have removed it and modified the figure and caption accordingly.

l.397-399 This is an important conclusion of this review, which is supporting the conceptual models in Figure 1, and would deserve to be elaborated here.

As suggested, we have elaborated on this point (l.399-404).

l.406-407 Carbon availability and chemical characteristics, if they refer to oxygen and ammonium, are likely related to the same processes of OM degradation. Along a gradient of redox conditions, OM degradation first consumes oxygen, then nitrates producing ammonium, then sulfates producing hydrogen sulphides. Along this gradient, when OM inputs are large enough to deplete oxygen and nitrate, abundance and biomass increase, when OM inputs are large enough to deplete oxygen, nitrate, and sulfate then the combined effects of hypoxia and hydrogen sulphide toxicity reduce abundance and biomass, unless the detritic-based system turns into a chemosynthetic-based system.

We have included this process in response to an earlier comment (l.332-334), and have amended the noted sentence to include a fuller explanation (l.412).