Author's response to Referee Comment 1

I thank the referee for taking the time to review the manuscript, and providing a few comments on its contents.

The reservations that the referee have, are regarding clarity. In this respect, two points are made. Should the referee have additional specifications about precisely what is unclear, I will do my best to respond to that as well.

1. The referee states that it is
   not very evident how useful and applicable the method would be in practice
   Section 3 (**A case study**) was written specifically with this topic in mind. Examples of the applicability of the method are given e.g. in Table 2, which provide statistics for edge displacements that allows an assessment of the general quality of such displacement from model results, and Figure 5 which contain information of the quality of the model's ability to reproduce the location of large ice edge displacements. Hence, the manuscript will not be modified in response to this item.

2. The referee states that it is
   not clear what advantages or trade-offs the method can have over pre-existing verification metrics
   In the event that the referee is aware of other methods that specifically target the quality of results for ice edge displacements from an expanding ice cover, I will evaluate the specific relevance of methods presented here. The situation is presently that I'm not aware of such a method. So, in response to this item, the following sentences will be introduced in the revision of the manuscript, in Section 4:
   The results from these methods expand on existing validation metrics such as e.g. the Integrated Ice-Edge Error (Goessling et al., 2016) and the various ice edge metrics considered by Melsom et al. (2019): The present methods provide summary statistics for the quality of model results for ice edge displacements in the presence of an expanding sea ice cover, as exemplified by Table 2 and Fig. 5, that are not provided with existing metrics. This is of high relevance for planned or ongoing site specific activities in regions which can potentially become ice infested.