

Dear Prof. Hélène Hébert (Editor),

Thank you for giving us the opportunity to submit a revised version of our work with minor revisions. We appreciate the time and effort that you have dedicated to provide your revision. We have been able to incorporate the suggested changes, and we are writing you to explain all these changes in detail. You will find your comments reported here, for your convenience, followed by our replies detailing how we addressed the issues.

Thank you very much for the updated version of this very valuable study, and for the comments made to the reviewers. This paper can now be processed in view of its publication.

I have a few more comments:

EDITOR: *Check the English spelling (I am not sure about the use of “whereby” without a verb, and “in where” instead of a single “where”) (l.354, 361, 446).*

AUTHORS: We have re-editing the sentence changing whereby to *due to*: “but they wouldn’t be significant in the modelling of the main landslide event, **due to** its low potential to transfer deformation to the water column”.

In the same way, we have decided to change the adverb *where* instead *in where*.

EDITOR: *Could you comment on the fact that the bathymetric grid step is limited to 2.5 km, also suitable for the slide model?*

AUTHORS: Two bathymetry grids were used to development the tsunamigenic Storfjorden SL1 submarine landslide modelling due that they are the most accurate available data for each subject. For the modelling of the Storfjorden SL1 landslide motion and displaced sediment thickness we used the high resolution bathymetry survey (75 m) provided by SVAIS and EGLACOM projects. The bathymetric mosaic that supported the wave propagation is based on a grid with acceptable resolution (250 m), provided by Norwegian Hydrography Survey (NHS) (Ottessen et al., 2006).

Regional gridded bathymetry with low resolution (2.5 km) provided by the Arctic Ocean (IBCAO) was only used to generate the North Atlantic regional bathymetry shown in the figure 1.b.

Section 3.1 (Bathymetric data) has been improved accordingly.

EDITOR: *Also a reference could be made on the fact that this paper deals with huge landslides (several km³ to tenths of km³), while much smaller collapses, either submarine or subaerial, also pose a significant local threat. Although this is not the scope of the paper, they could also be more frequent, and this could be noted in the new 5.4 section.*

AUTHORS: We agree. We have improved section 5.4, l.594-597.

Also much smaller collapses, either submarine or subaerial, also pose a significant local threat. In Norway, several rockslide tsunamis occurred in the 20th century, the most devastating in Storfjorden in 1934 (Blikra et al., 2005; Böhme et al., 2015). Although this is not the scope of the paper, they could be more frequent with estimated rate 1 event per 1000 years (Blikra et al., 2005).

EDITOR:

Other

comments:

l.144 : the is divided into : --> typo / 1.3° slope: best results obtained across the tested models: is it an extrapolation from laboratory experiments?

AUTHORS: In section 3.2 we indicate that the simulation has been performed by considering a critical slope repose angle of $\sim 1.3^\circ$. It is the minimum necessary value for tsunamigenic modelling, and it represents the maximum angle at which the slope is stable. Therefore, the real values obtained for the slope ($2^\circ - 3^\circ$) confirm that it is an unstable area and, therefore, it is suitable to trigger the slide. In order to avoid confusion, the former one is called the “critical slope repose angle”, and in the results section we describe the “measured seafloor gradients”.

EDITOR: *l.180: Figure 4: no more scarps are displayed, while legend remains*

AUTHORS: The scarps are displayed in the figure in black colour that it is not well distinguished, so they have been changed to white colour and defined as headwall.

EDITOR: *l.327: is show --> shown.*

AUTHORS: It was corrected.

EDITOR: *Table 1: 1598 is rather 1958.*

AUTHORS: It was corrected.