

## ***Interactive comment on “The Lituya Bay landslide-generated mega-tsunami. Numerical simulation and sensitivity analysis” by José Manuel González-Vida et al.***

### **Anonymous Referee #2**

Received and published: 19 November 2018

The manuscript entitled "The Lituya Bay landslide-generated mega-tsunami. Numerical simulation and sensitivity analysis" submitted by Gonzalez-Vida and co-authors concerns an attempt to accurately reproduce numerically the generation, propagation and inundation of the famous historical 1958 Lituya Bay landslide-triggered tsunami. I generally find the manuscript very well written, well-structured, solidly argued, and carefully supported by appropriate figures. I also find the methodologies generally well-explained and with enough details on the numerical approach employed by the authors, as well as reasonable explanation concerning the assumptions and simplifications in that approach. The modelling results presented in this paper are able to successfully reproduce the run-up observed at Lituya bay, and the parameters used

C1

are generally in agreement with observations and assumptions by Miller (1960) and Fritz et al. (2009). More important, the authors do a very good job at discussing and analysing the range of parameters that generate numerical solutions that are able to reproduce the observational constraints – and this is a plus in this paper. I am therefore of the opinion that the constitutes a timely and solid contribution to the field, offering a modern and sober analysis on the application of numerical solutions to reproduce this kind of events. In my view, the manuscript is worthy of publication following some very minor reviews. My main criticism concerns:

1) Referencing/citation style needs to be revised, given it is confusing and not in the right format in places, e.g. without parenthesis when they should have. Here is an example of this:

"This is particularly true for the leading wave Løvholt et al. (2015) that, on the other hand, is mainly responsible for coastal impact."

instead of

"This is particularly true for the leading wave (Løvholt et al., 2015) that, on the other hand, is mainly responsible for coastal impact."

Or

"It is in the far field where dispersive effects are proven to be important for a realistic description of tsunami impact Løvholt et al. (2008); Montagna et al. (2011)"

When it should be

"It is in the far field where dispersive effects are proven to be important for a realistic description of tsunami impact (Løvholt et al., 2008); Montagna et al., 2011)"

(If the authors used latex to prepare the manuscript perhaps they used the command `\citet{author}` instead of `\citep{author}`?)

2) an introduction that is perhaps overly long and a bit wordy – I guess the authors

C2

could trim or synthesise this part of the text to make it easier for the potential reader.

---

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2018-224>, 2018.