

General comments:

This revised manuscript illustrates a numerical method aimed to reproduce the tsunami waves generated by explosive subaqueous volcanism. The proposed numerical model is based on a non-hydrostatic multiphase solver for free-surface flows within the CFD code - Basilisk. The manuscript details the numerical validation against large-scale experimental data and field observations. The model is then applied to simulate a hypothetical case study (Lake Taupō), demonstrating its potential to be used for the relevant hazard assessment. I found the manuscript interesting and it is my opinion the topic perfectly fits the aim of the NHESS. Nevertheless, I kindly ask the authors to address some minor comments before I can recommend the manuscript for final publication.

Minor comments:

Section 4: I think it would be good to add a brief description about Shots 3 and 9. It is not clear where they are from.

L44 and L64: Please check the order of the references, as they are currently not in alphabetic or chronological orders.

L205: Please give the full name of “NH” first (probably on L61) and then use its abbreviation.

L242: In the entire manuscript, you switch between “Fig.” and “Figure” several times. Please make them consistent.

L329 and L330: Physical variables should be written in Italic to be consistent with other places in the manuscript.

L492: The issue number C5 is missed.

References list: A careful revision of this part is recommended. I noticed that some references are given with the DOIs but others are not. It would be good to try to give the DOIs for at least all the peer-review journal articles. Furthermore, please give the full lists of authors for some references (e.g. on L545, L548, L571).