

Clim. Past Discuss., community comment CC1
<https://doi.org/10.5194/cp-2021-100-CC1>, 2021
© Author(s) 2021. This work is distributed under
the Creative Commons Attribution 4.0 License.

Comment on cp-2021-100

Alan Robock

Community comment on "Magnitude, frequency and climate forcing of global volcanism during the last glacial period as seen in Greenland and Antarctic ice cores (60–9 ka)" by Jiamei Lin et al., Clim. Past Discuss., <https://doi.org/10.5194/cp-2021-100-CC1>, 2021

This looks like an excellent paper, but I noticed a few things that could be improved.

In the abstract, change "The frequency of eruptions larger than the typical VEI-7 (VEI-8) eruption by the comparison of sulfur emission strength is found to be 5.3 (7) times higher than estimated from geological evidence." to "The frequency of eruptions with sulfur emissions larger than the typical VEI-7 eruption is found to be 5.3 times higher than estimated from geological evidence, and for VEI-8 eruptions it is 7 times higher." Using parentheses to save space only serves to confuse and make it difficult to read. Furthermore, the sentence is awkwardly constructed. But VEI is not an index of sulfur emission. Why use VEI at all when discussing the impacts of volcanic eruptions on climate?

It would be much easier for reviewers if you put the table and figure captions on the same page as the tables and figures.

Table 1 uses acronyms that are not defined. What are NHHL, SH, or LL?

Table 2 needs to be corrected. Radiative forcing from volcanic eruptions is negative. For example, for those with forcing larger than Tambora, they are for forcing $< -17 \text{ W m}^{-2}$.

The notation in Fig. 6 needs correction. The correct unit for radiative forcing is W m^{-2} , with W capitalized, and m not in italics. Italics are for variables, and not for units. Similarly, km should not be in italics.

Review by Alan Robock