

Nat. Hazards Earth Syst. Sci. Discuss., author comment AC2
<https://doi.org/10.5194/nhess-2022-49-AC2>, 2022
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Reply on RC3

Nicola A Pino

Author comment on "Brief communication: The crucial assessment of possible significant vertical movements preceding the 28 December 1908, $M_w = 7.1$, Messina Straits earthquake" by Nicola Alessandro Pino, Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2022-49-AC2>, 2022

Dear Dr. Katz,

I read the comments from RC3. I thank him/her for the constructive review.

Before I give answer to the comments, I would like to make clear that in my brief note I prefer not to enter any discussion about interpretations of structural and/or tectonic issues, because my main points are: i) no official report mention any subsidence, as correctly stressed by RC3; ii) the Messina harbor tide gauge data, often misinterpreted in the past and leading to the conclusion that some subsidence might have occurred, clearly show that no precursory subsidence preceded the 1908 earthquake, instead. Thus, models relying on this hypothesis must be rejected. Any comment on possible tectonic uplift relative to faults – whose existence, among other things, appears to be somehow not universally recognized (e.g., Argnani, 2012, ESR) – would be far beyond the scope of the note, not adding any relevant information, and I would rather leave this debate to others.

In this regard, I consider the suggestion about the reference Comerci et al. (2015) very appropriate and useful and I will definitely add this article to the list. For the same reason, in the present version of the manuscript I also added the reference of the CFTI (Catalogo dei forti terremoti in Italia; Guidoboni et al., 2019).

As for the other suggested references, I underline that the note is not meant to be a review paper, and I am not listing the environmental effects, with the relevant references. I just mentioned the analysis by Convertito and Pino (2014; a quantitative modeling of felt report data) as an example to stress that, although felt report data can be used to deduce quantitative information about the source, most analysis of the 1908 earthquakes have been based on the historical geodetic data.

Similarly, the reference reported in the introduction, Pino et al. (2009) – which to date still is the most complete and detailed review of the very many (tens) articles published in the first century after the earthquake – is only mentioned to say that in spite of the large number of analyses accomplished on this issues, the fault still remains elusive and new studies are published every year. Successive publications do not include such a comprehensive list.

With my best regards.

Nicola Alessandro PINO