

## ***Interactive comment on “Detectability of seismic waves from the submarine landslide that caused the 1998 Papua New Guinea tsunami” by Akio Katsumata et al.***

**Akio Katsumata et al.**

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Dear Prof. Tappin,

We are grateful to giving comments on our manuscript. We changed the manuscript according to your suggestion.

Fryer identifies missing references and the potential for T-phase warning which could provide an alternative approach.

- We considered that size estimation is indispensable for tsunami warning

purpose. Passband of instruments should cover the process duration to estimate the size of the event properly. We added description in "Introduction" to claim that hydrophone is not useful for estimation of landslide size.

I question some of the interpretations of the different tsunami mechanisms in the Mediterranean. There are major seismic hazards here, such as Messina, 1908 and the EBTP of 365 AD. There are other earthquake tsunamis in the Ionian Sea. The work of Salamon et al., is questionable as it is based on the interpretation of ancient texts in earthquake identification (intensities) and not on modern methodologies of marine mapping and seismological identification of earthquakes and their magnitudes. A more appropriate reference is: Papadopoulos, G.A., García, E., Urgeles, R., Sallares, V., De Martini, P.M., Pantosti, D., González, M., Yalciner, A.C., Mascle, J., Sakellariou, D., Salamon, A., Tinti, S., Karastathis, V., Fokaefs, A., Camerlenghi, A., Novikova, T., Papageorgiou, A., 2014. Historical and pre-historical tsunamis in the Mediterranean and its connected seas: Geological signatures, generation mechanisms and coastal impacts. *Marine Geology* 354, 81-109.

- We added this suggested paper. However sources of many tsunamis were not identified in this paper. We did not change the context of "Discussion" so much.

The anonymous reviewer (RC2) undoubtedly identifies a fundamental flaw in the analysis. The PNG 09.02 'seismic' event is unique and was identified by Synolakis et al. as reflecting the slump movement, not a seismic event. The modelled and observed signals do not match. The authors have to go back and revisit the frequency signal at this time, and address this before the paper can be published – it is fundamental to the papers conclusions and the possibilities for tsunami warning from submarine landslides.

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- We are interested in seismic signals which have frequency band close to the landslide duration to estimate size of tsunami height. We added description in "Introduction" to make it clear.

To confirm, the PNG landslide was a slump. I mapped it.

- We added your paper (2008) to refer to the travel distance of the 1998 PNG event.

The Salamon reference is missing. I don't think there is a peer reviewed paper from 2011. 2007 maybe from the eastern Med?

- We received this paper PDF directly from the author. We couldn't reach the journal page, either. So we replaced this reference to BSSA, 2007.

Please also note the supplement to this comment:

<https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2018-317/nhess-2018-317-AC3-supplement.pdf>

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2018-317>, 2018.

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