

Supplementary material

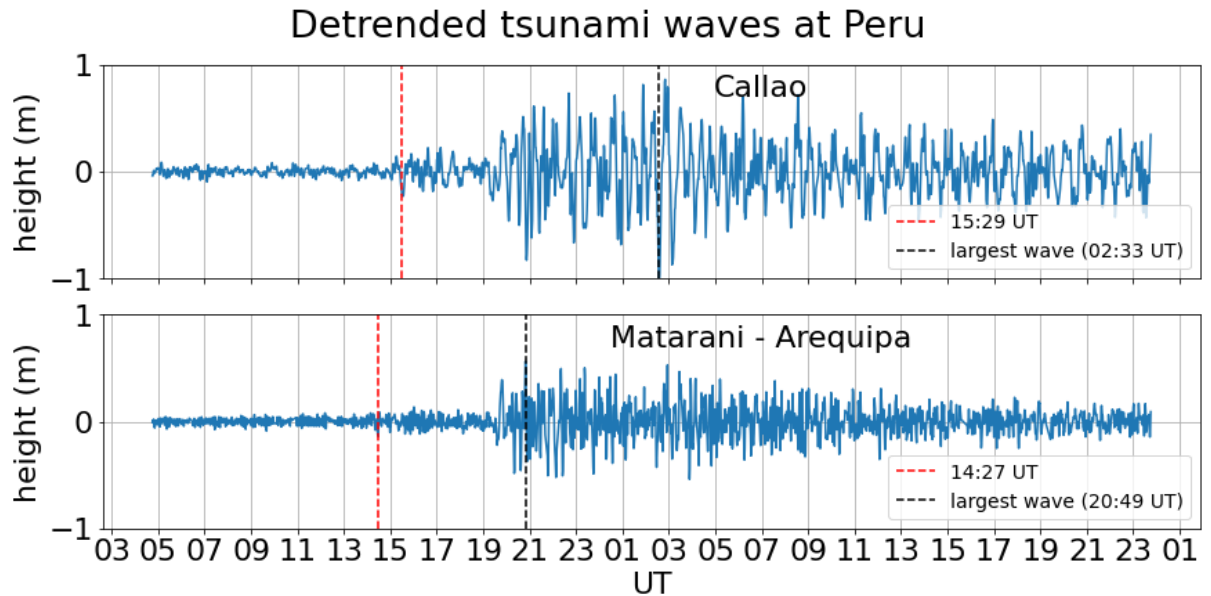


Figure S1. Detrended tsunami waves at Callao and Matarani on 15 January 2022. The arrival time of the leading wave is shown by the vertical red dashed lines and the occurrence time of the wave with the largest amplitude is indicated by the vertical black dashed lines.

The detrending of the tsunami wave signal generated by the volcanic eruption was performed by subtracting the 1-hour rolling mean of tide gauge records measured at Callao and at Matarani (Arequipa). The arrival time was estimated by the time when the detrended height is 50% higher than highest value from the 48 hours previous to the eruption.