

Interactive comment on “Seismic monitoring of the Auckland Volcanic Field during New Zealand’s COVID-19 lock-down” by Kasper van Wijk et al.

Anonymous Referee #1

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This manuscript “Seismic monitoring of the Auckland Volcanic Field during New Zealand’s COVID-19 lock-down” by van Wijk and others analyzed continues seismic data from an array of seismic stations at Auckland Volcanic Field, New Zealand to explore changes in the level of ambient seismic noise related to COVID-19 lockdowns. They also evaluated temporal correlations between seismic noise and environmental & mobility data and the detectability of micro earthquakes during the COVID-19 lockdown period.

Overall, the manuscript is written well and provides interesting insights into seismic noise related to human activity. I have some minor comments.

1. Frequency band.

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A main frequency band is 0.1-50 Hz, which seems to include a variety of seismic noise including microseisms, local earthquakes, human activity. I wonder if the authors provide several frequency bands (1-10Hz, 5-15 Hz, 10-30 Hz for example) that may allow us to understand the nature of the ambient seismic noise at the seismic stations.

2. Power spectral density plot.

Related to #1, I think it would be informative to include power spectral density (PSD) plots (with monthly to yearly data before the COVID-19 lockdown) for each station, which would provide the baseline of ambient noise level.

3. Mobility data (work places)

I see the work places data show noise reduction over weekend before the level 4 COVID-19 lockdown but it appears that the work places data periodically increase weekend after the level 4? I may have missed but it would be good to have some comments in the revision.

Interactive comment on Solid Earth Discuss., <https://doi.org/10.5194/se-2020-152>, 2020.

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