

Comparison of noise level between FDF land-based data and H3 BB-OBS data

We computed the spectrograms over several days comparing the noise level at the time of recording of the major Mw 8.1 Solomon Islands earthquake and at the time of the largest amplitude of infragravity waves signal of the 3 months period of winter storms.

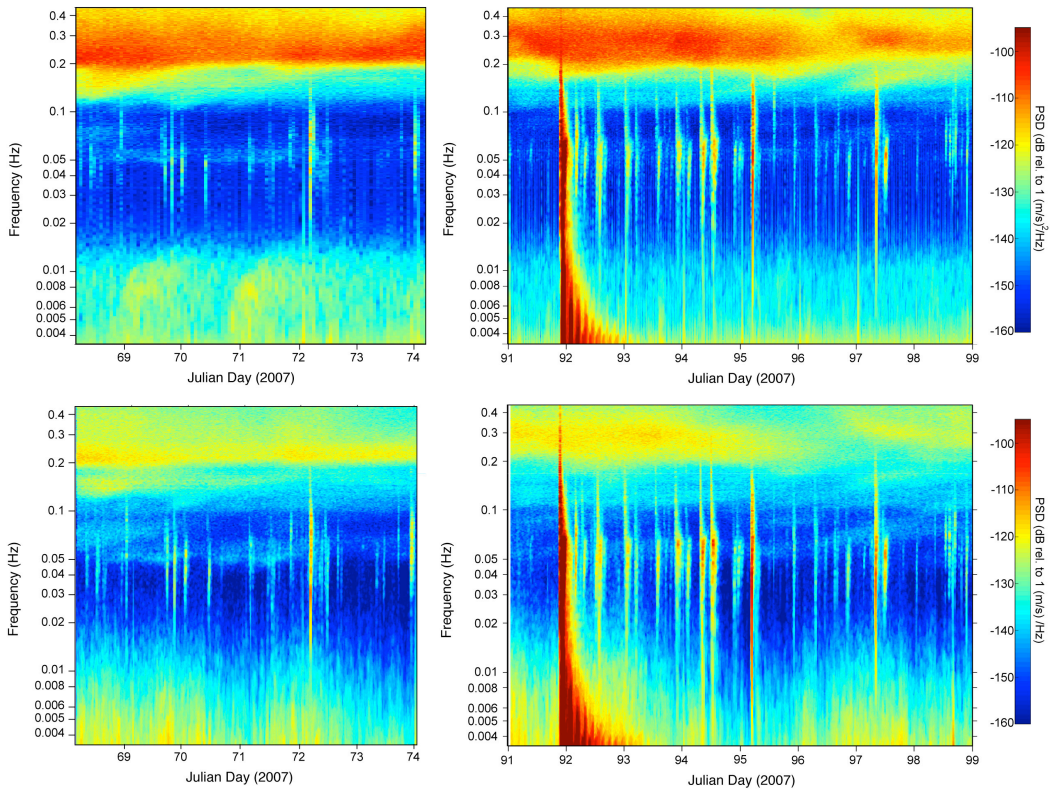


Figure S1 : Vertical component velocity spectrograms calculated between Julian days 68 to 74 and between Julian days 91 to 99 for station H3 (top panels) and FDF (bottom panels).

The two left-hand spectrograms are for the period when the infragravity waves signal is one of the highest for the whole recording period of the stormy winter season. The two right-hand spectrograms show the period with the M8.1 Solomon Island Earthquake. During that period, the infragravity waves signal were rather smaller on the OBS H3 data. However, by comparison, even in the highest infragravity noise as

shown in the top-left figure, the long period part of the earthquake signal would have been recorded well over noise at the OBS. This is shown by the succession of darker vertical lines through the spectrum in the following day, that correspond to the multiple paths around the Earth of the surface waves and normal mode part of the spectrum. The noise level in the infragravity band is almost the same than for the FDF GEOSCOPE station as for the broadband OBS data.