JGR: Solid Earth

Supporting Information for

On the non uniqueness of the source, propagation and site effects decomposition

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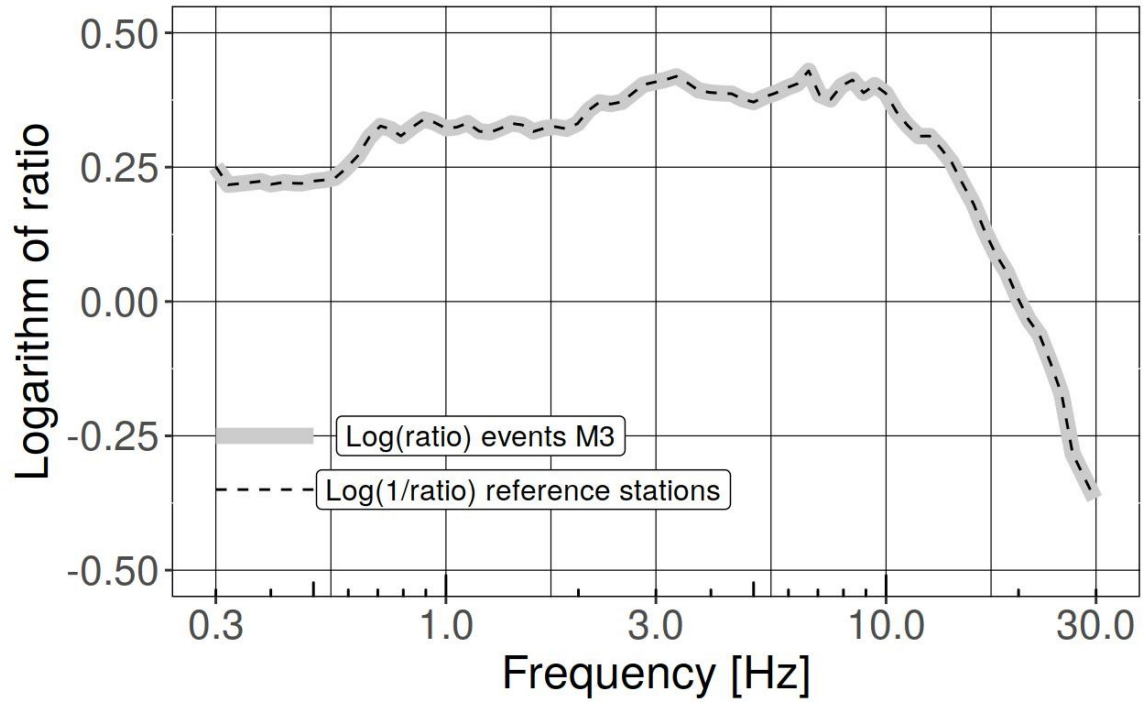
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Figures S1 to S3

Figure S1. Impact on the source spectra of the constraint applied to the site term. The gray line corresponds to the ratio of the average source spectra of magnitude 3 events (panels b and c in Figure 6) obtained considering the two different constraints applied to the site terms; the dashed line is the inverse of the ratio computed for the average site term of the reference stations.
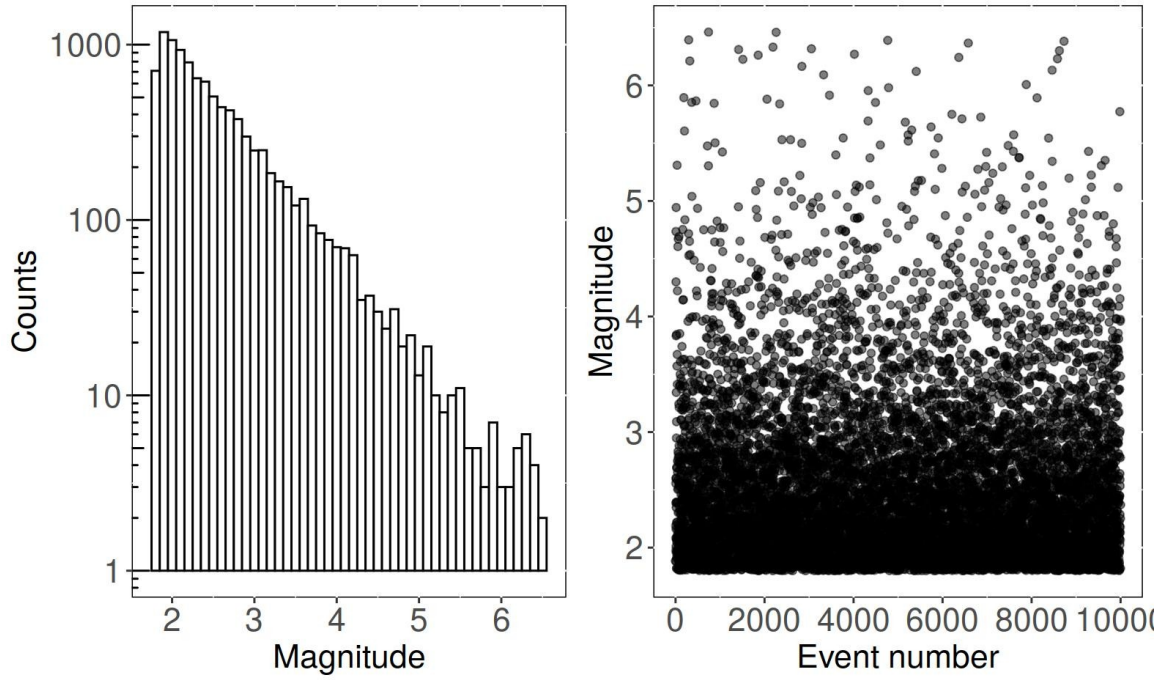
Figure S2. Synthetic magnitude catalog composed by 10000 events generated for the numerical test on the impact of constraining the corner frequency of small events. The left panel shows the distribution in the form of histogram reporting the number of events per magnitude bin.
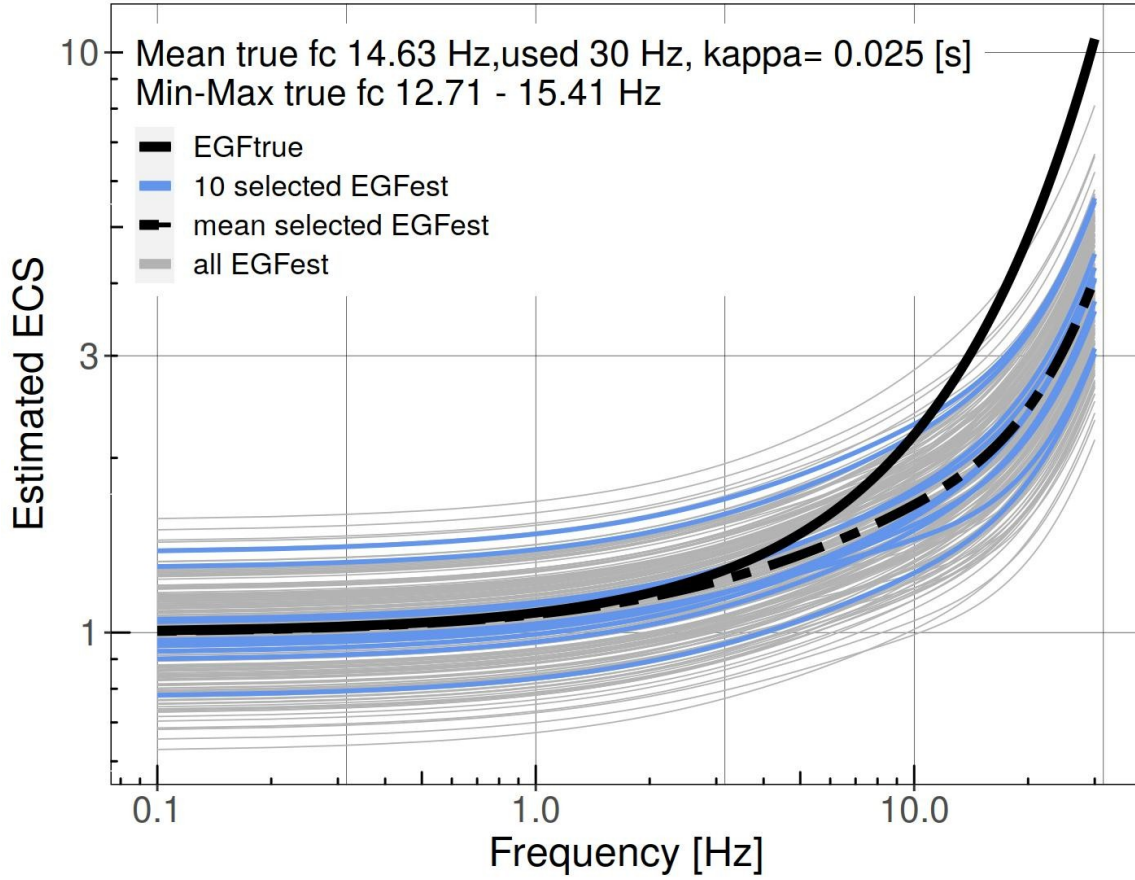
Figure S3. Estimated ECS in the numerical test performed to evaluate the impact of constraining the corner frequency of small events (scaling A of Figure 7). Thin lines are the spectra of the 202 candidate gEGFs with magnitude between 1.99 and 2.01; the average of the 10 selected gEGF is shown as dashed line; the black-solid line is the true EGF: the mean f_c of the used gEGFs is 14.6 Hz, the constrained one is 30 Hz. For the numerical ECS, k is fixed to 0.025 s (equation 8).