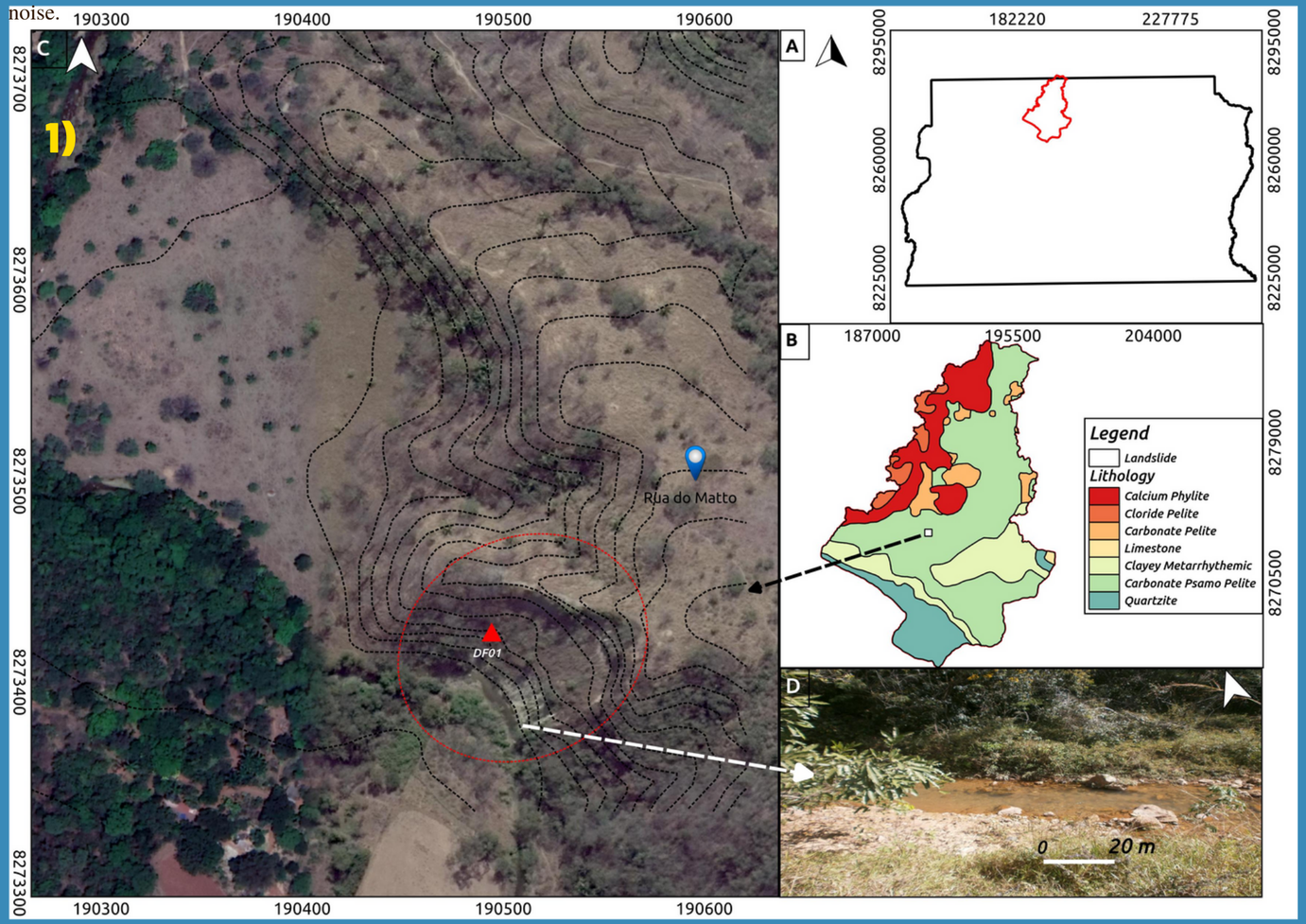
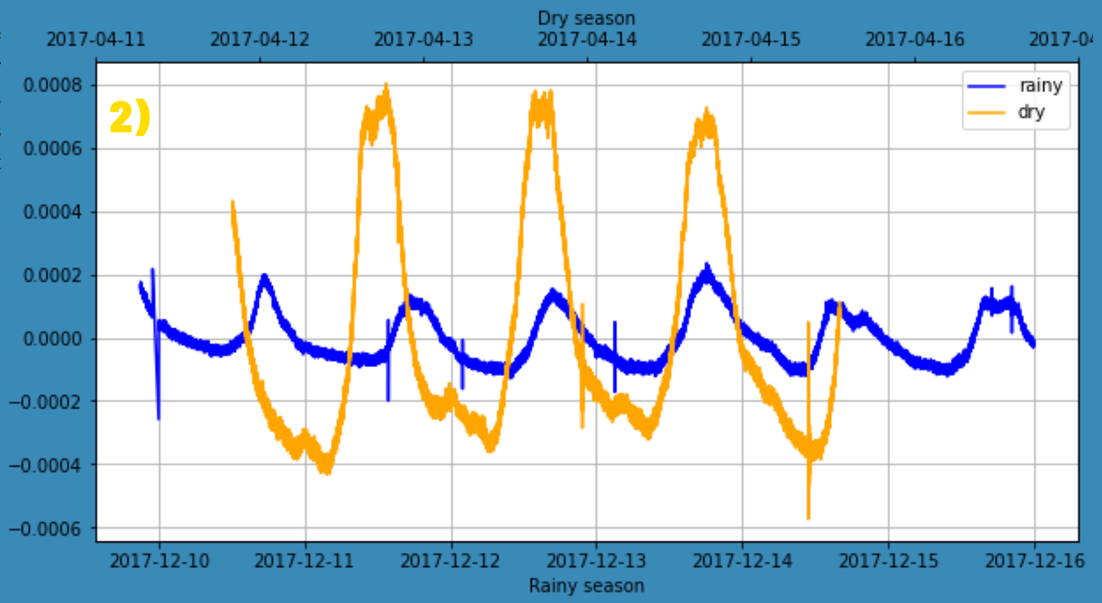
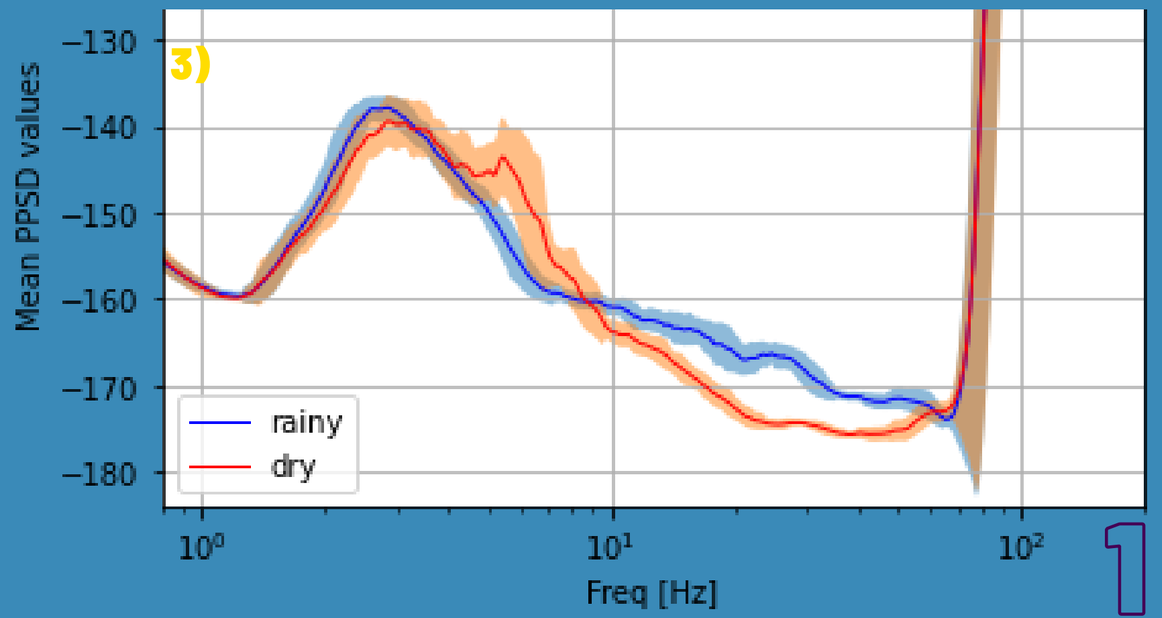
Fluvial Seismology: Case Study of the Contagem River (Brasilia), Brazil

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Rainfall-induced landslides are substantially impacted by the fluvial systems, therefore the continuous monitoring of the seasonal erosive potentials of these rivers are crucial. In this preliminary study, the ambient seismic noise records from a Brazilian case study are used. Data were acquired with single short-period (2 Hz) seismometers, REFTEK-130 data-logger and GPS lock, in dry and rainy days. A prominent increase in mean probabilistic power spectral density (PPSD) values is observed during rainy days within a frequency range of 10 Hz to 100 Hz (rising trend). A decreasing trends in the PSDs and first eigenvector can be seen at frequency range 20-40 Hz which may corresponds to lowering of river energy/flooding. The polarization attributes show no notable difference betwen rainy and dry days. It is concluded that seismic attributes may have their relation with the river-generated ambient noise.



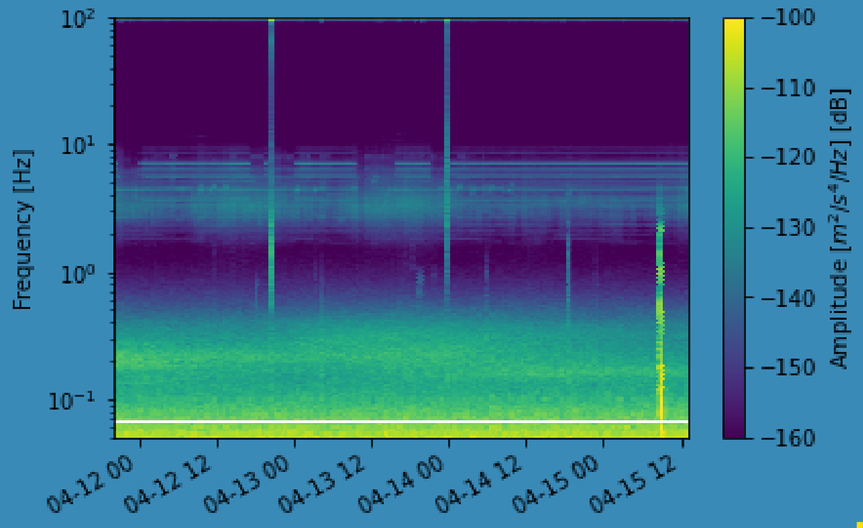


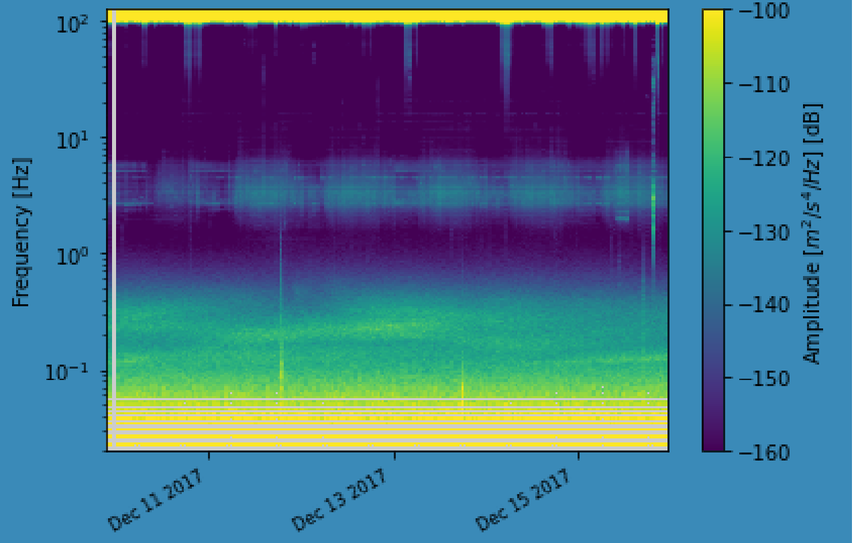


Figures 1) Location of the study area, 2) Normalized, demeaned and detrended ambient noise records of dry and rainy days, 3) Mean PPSD values dry and rainy days

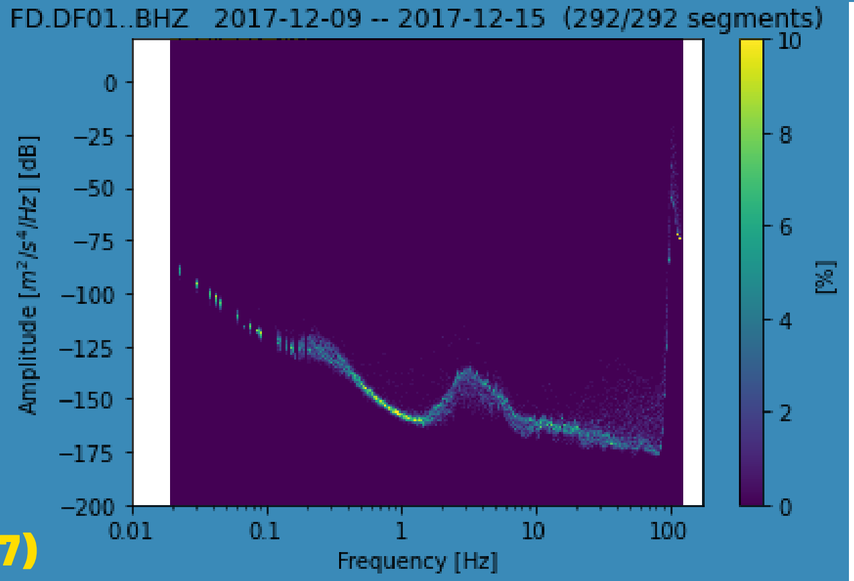
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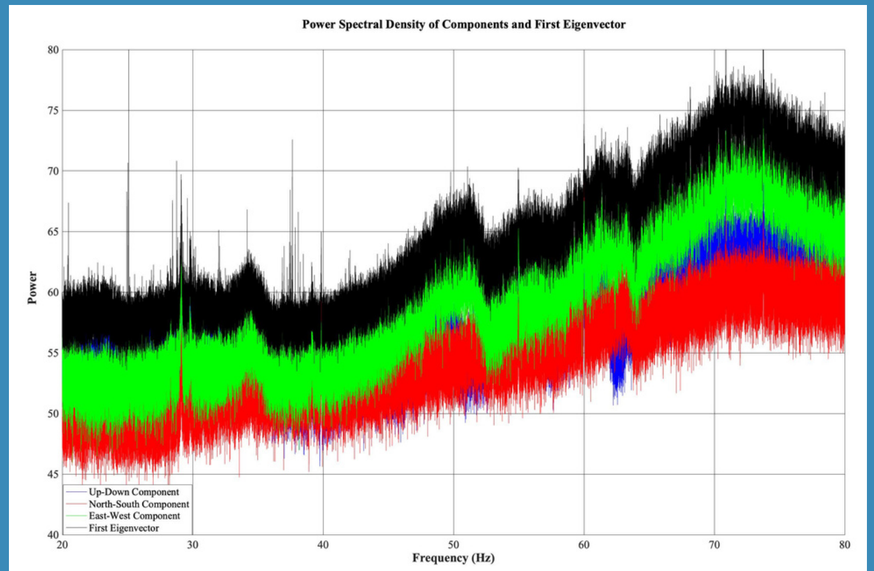


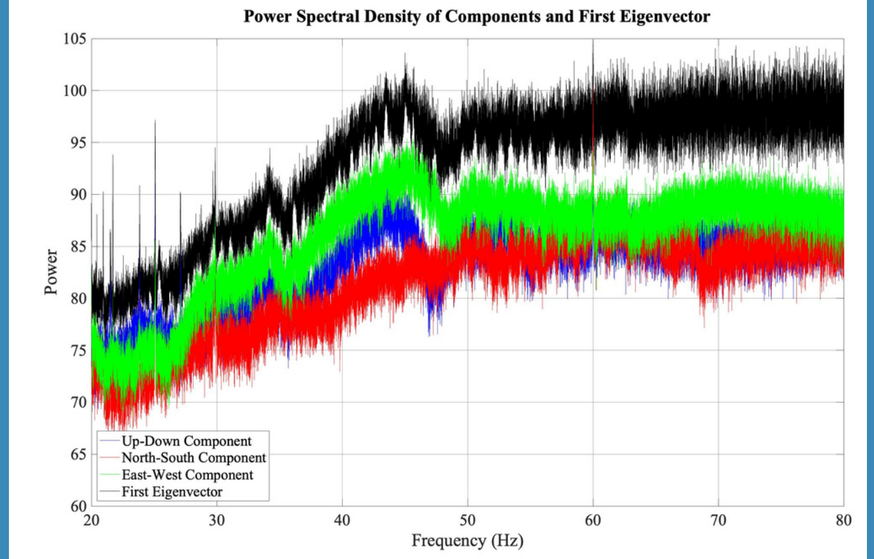


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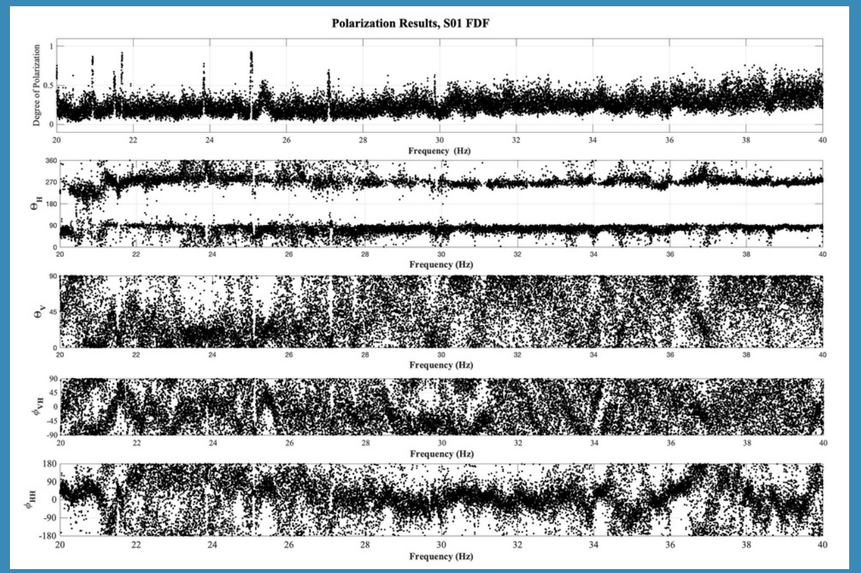


6)





7)



Figures: 4) Spectrograms dry and rainy days, 5) Spectral amplitudes, 6) Eigenvectors and PSD of components during dry and rainy days, 7) Polarization results