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# Receiver function and non-volcanic tremor studies in Costa Rica

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As part of the collaborative research center SFB574, the Central America subduction zone is being investigated by a seismological research subproject conducted by Costa Rican and German partners. The general goal of SFB574 is to study the origin and influence of volatiles and fluids in subduction zones. The seismological subproject constitutes the structural and seismotectonical framework of these investigations. Under this framework, several seismological network installations had already been accomplished. In addition to the short period amphibious network TOMO, two other experiments are being performed in Costa Rica: a transect comprising 18 broadband stations in the Talamanca region and array of 6 borehole stations at the Nicoya Peninsula. The steepness of the subducting slab is one of the main ambiguities in southern Costa Rica where the Cocos Ridge subducts beneath Costa Rica and seismicity in the Wadati-Benioff zone is decreases. For this reason receiver function analysis is being performed for imaging the subducting slab and the Moho. Vp/Vs ratios which can be obtained as well from this analyses, will give some indications for the amount of fluid contents in the mantle wedge. The aim of the borehole experiment is to observe non-volcanic tremors in Costa Rica. There are some indications of silent slip events in the area of the installation which are correlated with non-volcanic tremors. Previous works in Japan and Cascadia mentions that non-volcanic tremors are related to fluid flow at the plate boundary.