FIRE: WP6 Using Ambient Noise towards 4D Monitoring

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AL1: Volcanic structure

- Seismic ambient noise tomography. Joana Carvalho (Earthsystems PhD Student) started her work on **Imaging the Hotspot Structure of Cape Verde**.
- She is now performing a polarization analysis to characterize the seismic noise sources.
- Cross-correlation analysis to build Empirical Green Functions is underway

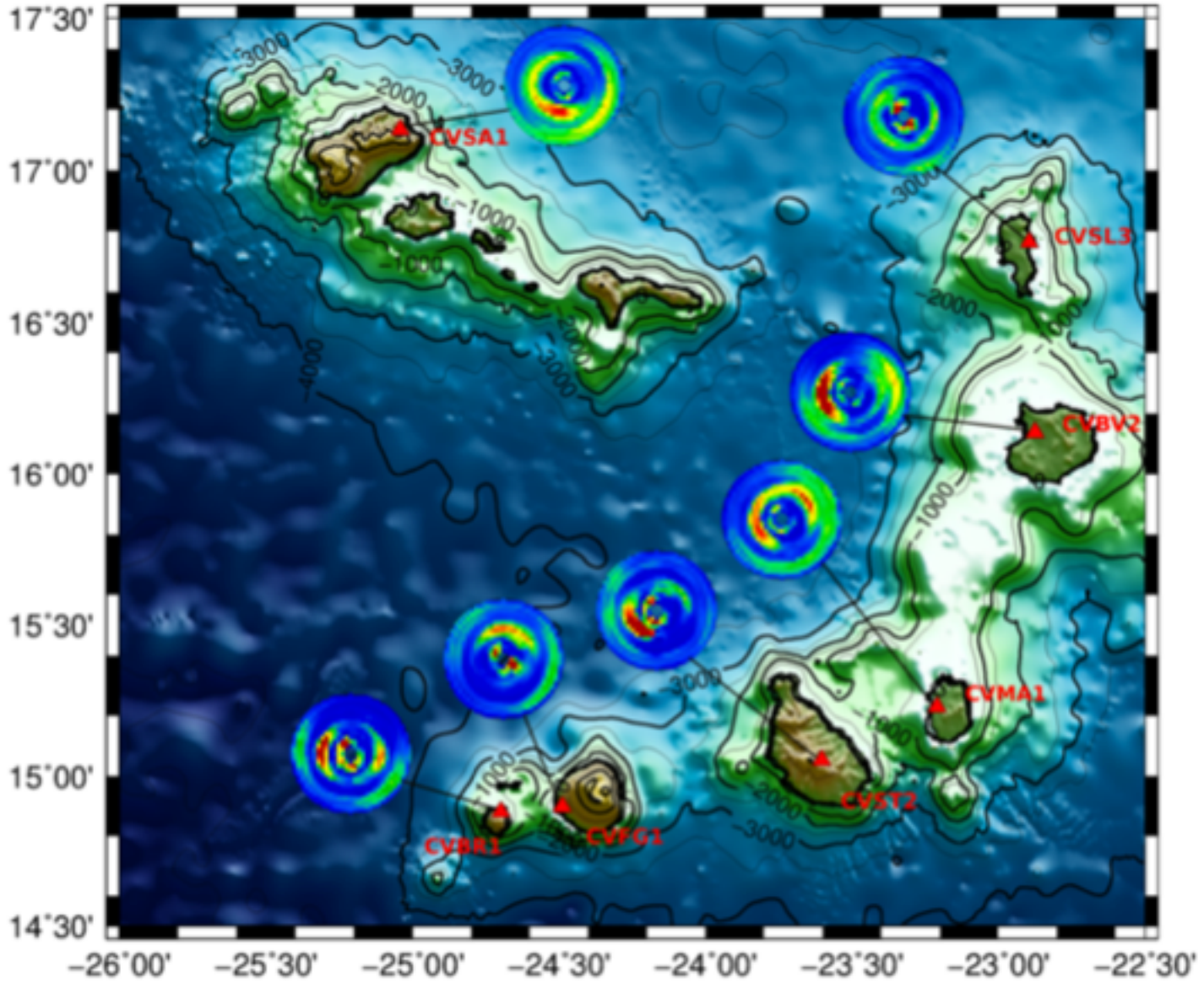

Figure 14: Map of Cape Verde archipelago with the analyzed stations (red triangles) and the result of the number of elliptical polarized signals as function of *BAZ* and frequency to each station, during 10 months. Archipelago topography from SRTM [17].

AL2: Eruption Dynamics

- Nothing yet but we are about to start. We have just selected a master student which will implement the necessary tools to monitor seismic velocity changes.
- This specific task is highly dependent on the data recorded before, during and after the eruption by the INMG.

AL3: Strategies for Risk Mitigation

- Not yet

Challenges/issues encountered/anticipated

- The monitoring analysis strongly depends on the access to the data from the INMG. We hope to solve this with a visit to INMG – Mindelo.
- Meanwhile we will test the implementation of this tools using existing data.

Plans for coming months

- Interaction with WP5 regarding the following points: Data quality control, identification of volcanic tremor
- Characterization of seismic noise sources recorded by the Cape Verde temporary network;
- First results on the seismic structure from ANT using existing data.
- Dissemination activities (presentation of the results at the AGU 2017 Fall meeting, preparation of a manuscript to submit to a peer reviewed journal)