The San Miguel volcano lies near the city of San Miguel, El Salvador (13.43N and -88.26W). San Miguel volcano is an active volcano and presents a significant natural hazard for the city of San Miguel. Furthermore, the internal state and activity of active volcanoes remains an important component to understanding volcanic hazard. The main technology for addressing volcanic hazards and volcanic processes is through the analysis of data collected from the deployment of seismic sensors that record ground motion. By analyzing seismic and volcanic hazard, we will be utilizing this data to develop images of the earth structure beneath the volcano, studying the plumbing system using earthquake relocations, receiver functions, and tomography.

**Receivers Functions (RF)**
- Calculate receiver functions (RFs) by deconvoluting the radial and vertical component waveforms using an iterative deconvolution approach (Lomax and Abers, 1995) for moderate-sized (M>5.5), teleseismic (30˚ - 90˚) earthquakes.
- Use Zhu and Kanamori (2000) technique which multiplies echoing in the crust at different P/S ratios versus depth.
- We expect that dipping layers from the subduction zones and local heterogeneities to add to complexity of RFs.

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**Seismic Wave**
- With dozens of seismometers, scientists can detect two structures from one seismometer. As more seismometers are added, scientists can determine the borders of the structures.

**Future Analysis**
- Compare cross correlation time picks for the P- and secondary arrivals.
- Implement HYPODD with cross correlation arrivals.
- The relocated events will be used for implementing double difference tomography.
- Calculate magnitudes of the earthquake.
- Identify and study other volcanic processes, such as volcanic tremor.

**Discussion**
- We deployed six instruments on San Miguel Volcano, El Salvador.
- Reviewed and relocated events determined from automated software.
- Identified distributed seismicity underneath.
- Determined crustal thickness and P/S ratio.
- Results will be foundations for future tomography work.

**Future Velocity and Tomographic Models**
- We expect that dipping layers from the subduction zones and local heterogeneities to add to complexity of RFs.
- Despite RF complexity, we were able to obtain stable Moho depth and P/S ratio for station BM.
- Will use results for initial 1-D velocity model for tomography (see below).

**Introduction**
- Six broadband seismometers were deployed around the volcano from March 26th to January 2008, lead by Dr. Cara Schiek.
- Deep seismicity in the region is predominantly regional. Here we moved the P and Lg arrivals.

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