

## Interplay between fast and slow earthquakes in Taiwan

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We analyze broadband data in Taiwan and found very low frequency earthquakes (VLFs) in the south central range. We use a centroid moment tensor inversion method to identify distinct VLF events, and then use a matched filter techniques to find similar events for three years. Two of the VLFs show temporally correlated activities indicating that they are driven by similar stress dynamics. Interestingly, increased rate of VLF activities is followed by increased rate of regular fast earthquakes, at least twice in three years. We speculate that swarms of regular microseismicity is triggered by increased VLF activities, and by inference, slow slip. We show that fluid migration from deeper to shallow part of the fault system is consistent with our observations.

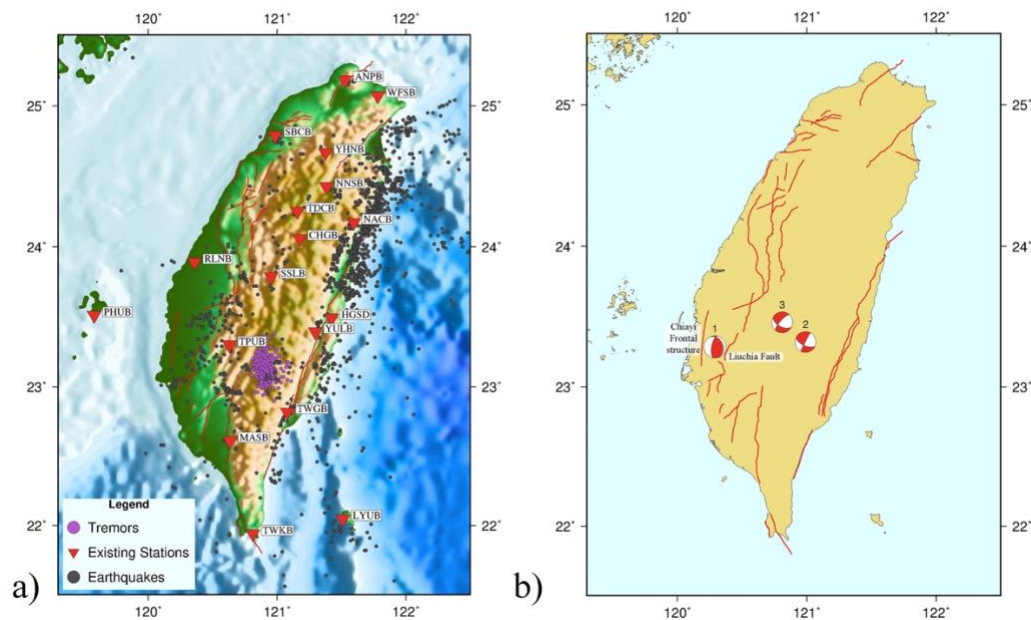


Figure : a) Map all the seismic stations (red triangles) in Taiwan with earthquakes (blue circles) and tremors (turquoise circles), b) Map shows the 3 detected VLFs along with their focal mechanisms.