

## Temporal variations of non-volcanic tremor (NVT) locations in the Mexican subduction zone: finding the NVT sweet spot

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Epicentral locations of non-volcanic tremors (NVT) in the Mexican subduction zone are determined from the peak of the measured energy and examined over time. From this data NVT is found to occur continuously at a distance of ~215 km from the trench, which we term the "Sweet Spot" because this region probably has the most plausible conditions (proper pressure, fluid content, temperature ~500 °C at the plate interface, and shear stress) for the NVT to always occur. High energy NVT bursts are also observed every few months, extending ~180 km to ~220 km from the trench with durations of a few weeks. During the 2006 slow slip event the duration and frequency of the NVT bursts increased and low energy bursts were observed ~150 km to ~180 km from the trench. We suggest that small, short term slow slip events (SsE) generate additional shear stress creating the high energy NVT bursts and allow NVT to occur outside of the Sweet Spot. SsE's were triggered by the large, long term 2006 slow slip event (SSE) as evidenced by the increase in frequency and duration of the high energy NVT.