



AWSFL008-DS3

**NSF Award Abstract**  
**- #9905469**

**Imaging the Seismogenic Zone with Geodesy and  
Seismology: Two Land Ocean  
Transects Across Costa Rica and the Middle  
America Trench**

**NSF Org** OCE

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**NSF Program** 1620 MARINE GEOLOGY AND  
GEOPHYSICS

**Field Application 0204000 Oceanography  
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## **Abstract**

Funds are being provided for a three year, multi-institutional, two-transect, geodetic and seismic experiment across the Middle America Trench and Costa Rica, immediately above the seismogenic interface between subducting Cocos and overriding Caribbean plates. The PIs will operate GPS, leveling, and digitally recording seismometers on land and deploy ocean bottom seismometers (OBSs) offshore. The goal is to map the three-dimensional distribution and nature of the seismogenic zone, the locked or the partly locked plate interface that generates large earthquakes, for comparison to processes that control the distribution of seismicity and plate coupling. The imaging of the seismogenic zone will be enhanced in the Nicoya and Osa peninsular region because of the close approach of local coastline to the trench axis where the large earthquakes are generated.

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