

Spring 3-14-2011

Possible Connections Between a Great Earthquake and an Earthquake Sequence: Samoa Islands (8.1) and Vanuatu Islands

Marissa Cameron[^]

University of Texas at El Paso, meesa86@yahoo.com

Aaron A. Velasco^{*}

University of Texas at El Paso, aavelasco@utep.edu

Follow this and additional works at: http://digitalcommons.utep.edu/couri_abstracts

Recommended Citation

Cameron[^], Marissa and Velasco^{*}, Aaron A., "Possible Connections Between a Great Earthquake and an Earthquake Sequence: Samoa Islands (8.1) and Vanuatu Islands" (2011). *COURI Symposium Abstracts, Spring 2011*. Paper 29.

http://digitalcommons.utep.edu/couri_abstracts/29

This Article is brought to you for free and open access by the COURI Symposium Abstracts at DigitalCommons@UTEP. It has been accepted for inclusion in COURI Symposium Abstracts, Spring 2011 by an authorized administrator of DigitalCommons@UTEP. For more information, please contact lweber@utep.edu.

Possible Connections Between a Great Earthquake and an Earthquake Sequence: Samoa Islands, (8.1) and Vanuatu Island.

Marissa Cameron[^], Aaron A. Velasco*

**Department of Geological Sciences, University of Texas at El Paso*

Dynamic triggering describes the possibility that certain earthquakes cause, or 'trigger' new earthquakes at great distances. Static triggering is common and is known to cause aftershocks very near to the site, generally within two lengths of the ruptured fault. Dynamically triggered events can occur at distances beyond two fault lengths, however the mechanism for how this can occur remains unknown. By examining seismic data collected from possible dynamically triggered events, we may gain a better understanding of the mechanisms at work. On September 29, 2009, an earthquake of magnitude 8.1 took place along a 175 km fault rupture in Samoa, an island along the Tonga Trench in South Pacific Ocean. A week later a string of earthquakes occurred over 2000 km away, well beyond the bounds for static triggering, on Vanuatu Island in the South Pacific. Utilizing the USGS and Global CMT website yielded seismic data including magnitude, depth, and location that were plotted and mapped to investigate these earthquake events. Future research aims to analyze this data more thoroughly, as well as compare it to accepted instances of dynamic triggering in the hopes of determining if the Samoa earthquake is an example of dynamic triggering.