SOLID EARTH SEMINARS

SUBMARINE NORMAL FAULT SCARP EVOLUTION WITH LINKS TO SEISMICITY: INSIGHTS FROM HIGH-RESOLUTION BATHYMETRY DATA FROM THE LESSER ANTILLES

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WHAT'S THIS ABOUT?

Due to challenges involved in mapping the seafloor at high-resolution (e.g., < 2 m), data are lacking to understand processes that control the evolution of active normal fault scarps in submarine settings. Normal fault scarps cover large parts of the global seafloor on abyssal plains. Consequently, we lack data on first order processes of erosion and deposition for a significant part of the Earth's surface. In this talk, I will present data from autonomous deep-sea vehicles which we have used to quantify local erosion and deposition associated with a pronounced tectonic surface scarp formed by slip on the submarine Roseau normal fault (Lesser Antilles). I will explore how erosion via mass wasting controls scarps evolution and investigate the extent to which seafloor erosion is linked to local seismicity. The data presented in this talk can be used to inform models of submarine landscape evolution, but our dataset and methodology has numerous other applications in submarine tectonics including submarine paleoseismology, fault evolution analysis, and earthquake hazard analysis.

ZOOM

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PASS: RG234_SES

https:/ /videoconf-colibri.zoom.us/j/89018419156

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