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Characterization of submarine landslide complexes offshore Costa Rica: An evolutionary model related to seamount subduction

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Content :

Offshore Costa Rica large seamounts under-thrust the continental convergent margin causing slides of complex morphology. The large dimension of the structures has attracted previous investigations and their basic characteristics are known. However, no detailed mapping of their complex morphology has been reported. Here we present a detailed mapping of the failure-related structures and deposits. We use deep-towed sidescan sonar data, aided by multibeam bathymetry to analyze their geometry, geomorphologic character, backscatter intensity, and spatial distribution. Those observations are used to analyze the relationship between landslide characteristics and abundance, to the changes in the style of deformation caused by the subduction of seamounts to progressively greater depth under the margin.

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