



Identification of major flank collapses around the Cape Verde Islands and associated tectonic processes

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Evidence for major flank collapse and large-scale landsliding is seen on many volcanic ocean islands all over the world. The Cape Verde Islands are a group of volcanic islands with a progression of ages. The oldest volcanic rocks date from 16Ma, and the succession seems to show a significant period of volcanism from about 500Ka to the present. This paper presents the combination of two multibeam bathymetry datasets from around the Cape Verde Islands. The larger islands all exhibit major flank collapse and the data show excellent examples of large debris avalanche deposits. Examples will be shown of the geomorphological shape of the seafloor and the use of the backscatter imagery derived from multibeam data to identify the debris avalanche sequence.

Magmatic/tectonic activity will be tentatively identified for some of the area. Two island flanks, one on Santo Antao and one on Fogo, will be shown in detail, being the largest and possibly the most recent large-scale activity (about 170Ka and 80Ka respectively). There is a possible tsunami threat for future flank collapses though timescales cannot be calculated with any certainty. An increase in tectonic or magmatic activity may trigger such processes, thus raising the currently low status of geohazard. Any present day landsliding, and the tsunami generated, would have a catastrophic effect on neighbouring islands as well as further afield.