



Landslides and gravity flows in submarine canyons off west Iberia: what are the effects on the benthic ecosystems?

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HERMES is an international, multidisciplinary research programme investigating Europe's deep marine ecosystems and seafloor environments. The west Iberian continental margin is one of the HERMES study areas; this margin is incised by numerous canyons that are affected by frequent landslides and gravity flows. This study investigates how these mass wasting processes affect distribution of seafloor fauna in the Nazaré and Setúbal Canyons.

HERMES data for the Nazaré and Setúbal Canyons cover the full range of spatial resolutions, including swath bathymetry, medium-resolution sidescan sonar, shallow seismic profiles, and detailed photography of various sedimentary environments on the canyon floor and walls.

Preliminary results show that both canyons have a steep, sinuous upper section and V-shaped thalweg with frequent localised landslides/rockfalls. Larger shelf-edge failures rapidly evolve into turbidity currents that pass through the canyons and primarily deposit on intra-canyon terraces and distal abyssal plains. We show how differences in the most recent sedimentation within and between the canyons are reflected in the distributions of the benthos, and also highlight how studies of benthic fauna can provide new insights into timing and spatial distribution of mass wasting events.