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Submarine canyons imprint on the shelf sedimentary cover: the Oporto, Aveiro and Nazaré canyons (NW Iberian Margin)

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Submarine Canyons act as sedimentary conduits through which there is a magnification of particle transport processes between the coastal zone and the deep oceanic domain. Three submarine canyons are imprinted on the NW Iberian Margin: Oporto, Aveiro and Nazaré. The Nazaré Canyon is one of the major Atlantic valleys and cuts the entire continental shelf. By the contrary, the Oporto and Aveiro canyons are less important incisions, only affecting the outer-shelf and the shelfbreak areas. These canyons were target of many surveys performed by the Portuguese Hydrographic Institute (IH). The present work aims to compare the above submarine canyons based on the textural and compositional parameters of the sedimentary superficial cover within the canyons' heads and adjacent areas. First results suggest that the morphology, the incision degree and the distance towards the coastline of the canyon's heads have an important role in their origin and geological evolution, and revealed to be determinant in the sedimentary dynamics of these submarine canyons and respective adjacent zones. This study is a contribution from DEEPCO (Deep Sedimentary Conduits of the Western Iberian Margin - POCTI/CTA/46367/2002)