

{rokbox title=|Bathymetry map of the surveyed area with main currents :: Image: Authors|thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-first-recording-bathypelagic-deep-scattering-layer-bay-biscay-pena-et-al-2021-thumb.jpg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-first-recording-bathypelagic-deep-scattering-layer-bay-biscay-pena-et-al-2021.jpg{/rokbox}

Marian Peña, Itziar Munuera–Fernández, Enrique Nogueira, Rafael González-Quirós, 2021.

[First recording of a bathypelagic deep scattering layer in the Bay of Biscay.](#)

Progress in Oceanography. Volume 198, November 2021, 102669.

<https://doi.org/10.1016/j.pocean.2021.102669>

Abstract: Acoustic meso- and bathypelagic studies are scarce in the Bay of Biscay but increasing over the last years. This study provides a description of seasonal and bathymetric variation in the distribution of the main scattering layers. We combine acoustics and hydrographic information from four surveys carried out in 2015 in the southern Bay of Biscay. Water mass properties as well as mixing processes studied through optimum multiparameter (OMP) analysis provided information on the physical seascape. This study reports for the first time a bathypelagic deep scattering layer that was detected in autumn (1300–1500 m) and winter (800–1200 m) and did not present a daily migration pattern. Migrant deep scattering layers and non-migrant layers, stronger at 18 and 38 kHz respectively, are two separate entities with distinct spatial and seasonal dynamics. Migrant layers vary in number and intensity with primary production while the main non-migrant layer (400–800 m depth) is constant in intensity throughout the year. Non-migrant layers seem to locate at horizontal water mass boundaries with increased stratification.

Keywords: Acoustics, Mesopelagic, Bathypelagic, Migration, Deep scattering layers, Seasonal variations, Brunt–Väisälä, Horizontal water mass boundaries