

{rokbox title=|Northern Iberian Peninsula showing its main geomorphological features of the seafloor :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-cob-ieo-csic-fisheries-approach-mackerel-migration-cantabrian-sea-rodriguez-basalo-et-al-2022-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-cob-ieo-csic-fisheries-approach-mackerel-migration-cantabrian-sea-rodriguez-basalo-et-al-2022.jpg{/rokbox}

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[Fisheries-based approach to disentangle mackerel \(*Scomber scombrus*\) migration in the Cantabrian Sea](#)

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Abstract: Mackerel is an important commercial pelagic species present in the western and eastern North Atlantic. The Northeast Atlantic Mackerel (NEAM) stock has its southernmost spawning area mainly located western Iberian Peninsula and southern Biscay. This species performs extensive annual migrations. The present study is focused on the distribution of this species along the Cantabrian Sea, an essential area of the South Spawning Component (SSC), and the environmental drivers that can affect its migration phenology. We have used data from Vessel Monitoring System and Logbooks of the hand line fishery to estimate the catch per unit of effort (CPUE) as a proxy of its distribution and abundance. CPUEs data of fisheries targeting NEAM provided us with a tool to discriminate the most important predictors for both its prespawning and the postspawning behavior. Among the drivers that can affect mackerel migration, we have analyzed wind speed and direction, temperature at surface (SST) and at 200 m depth, chlorophyll a, mixed layer depth, upwelling intensity, and the most representative geographical variables: depth, slope of the seafloor, and distance to coast. We used generalize additive models to highlight the predictors most closely related to the phenology of the species and to shape the spatial–temporal abundance of NEAM in the southern Bay of Biscay waters. Temperature and wind speed and direction are the most important factors that affect prespawning and postspawning migration of NEAM SSC and shape its niche tracking leading to a gradual advance of the spawning season.

Keywords: environment drivers, fisheries-based approach, mackerel, migration, NEAM,

northeastern Atlantic