{rokbox title=|Decapod crustacean (top) and fish larvae (bottom) :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-estructura-meroplankton-sistema-frontal-meps-manolo-hidalgo-et-al-2014-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-estructura-meroplankton-sistema-frontal-meps-manolo-hidalgo-et-al-2014.jpg{/rokbox}

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Hidden persistence of salinity and productivity gradients shaping pelagic diversity in highly dynamic marine ecosystems.
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Abstract: While large-scale patterns of pelagic marine diversity are generally well described, they remain elusive at regional-scale given the high temporal and spatial dynamics of biological and local oceanographic processes. We here evaluated whether the main drivers of pelagic diversity can be more pervasive than expected at regional scale, using a meroplankton community of a frontal system in the Western Mediterranean. We evidence that regional biodiversity in a highly dynamic ecosystem can be summarized attending to both static (bathymetric) and ephemeral (biological and hydrographical) environmental axes of seascape. This pattern can be observed irrespectively of the regional hydroclimatic scenario with distance to coast, salinity gradient and chlorophyll a concentration being the main and recurrent drivers. By contrast, their effect is overridden in common analyses given that different non-linear effects are buffered between years of contrasting scenarios, emerging the influence of secondary effects on diversity. We conclude that community studies may reveal hidden persistent processes when they take into account different functional effects related to hydroclimatic variability. A better understanding of regional dynamics of the pelagic realm will improve our capability to forecast future responses of plankton communities as well as impacts of climate change on marine biodiversity.

Keywords: Seascape ecology, Pelagic diversity, Meroplankton, Hydroclimate, Oceanographic gradients