

{rokbox title=|Conceptual representation of oceanographic, meteorological, geological, and biological processes that contribute to the existence of marine climate refugia :: Image: Authors|thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csicmarine-climate-refugia-climate-smart-conservation-sanz-et-al-2026-thumb.jpg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csicmarine-climate-refugia-climate-smart-conservation-sanz-et-al-2026.jpg{/rokbox}

**Marina Sanz-Martín**, Carolina Olguín-Jacobson, Jessica A. Bolin, **Carla Quiles-Pons**, Isaac Brito-Morales, Jorge García Molinos,

**Manuel Hidalgo**

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[Identifying marine climate refugia to advance climate-smart conservation](#)

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**Abstract:** Climate change is impacting the ocean and the services it provides, but the rate of change is not spatially uniform. Some areas, known as marine climate refugia, are less impacted by climate change and, if conserved, can provide a promising climate adaptation strategy. In this review, we synthesize the processes that create refugia conditions and the scientific approaches used to identify them, which fall into three main categories: low climatic exposure, ecological resilience, and habitat suitability. These approaches are applied across levels of biological organization and multiple temporal and spatial scales, reflecting the dynamic nature of the ocean. We show that integrating these approaches into conservation and management can support climate-smart strategies to enhance ocean resilience and biodiversity under intensifying climate threats.

**Keywords:** marine climate refugia, ecological resilience, climate exposure, habitat suitability, climate velocity, marine heatwaves