

{rokbox title=|The Mediterranean Sea map displays the sub-regions considered in the CRA ::

Image: Authors|

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M. Hidalgo, A. E. El-Hawet, A. C. Tsikliras, E. M. Tirasin, T. Fortibuoni, F. Ronchi, V. Lauria, O. Ben Abdallah, E. Arneri, L. Ceriola, N. Milone, S. Lelli, P. Hernández, M. Bernal and M. Vasconcellos, 2022.

[Risks and adaptation options for the Mediterranean fisheries in the face of multiple climate change drivers and impacts.](#)

ICES Journal of Marine Science, Volume 79, Issue 9, November 2022, Pages 2473–2488.

<https://doi.org/10.1093/icesjms/fsac185>

Abstract: The Mediterranean Sea is among the most vulnerable semi-enclosed seas to climate change. Multiple oceanic changes occur besides warming that can generate numerous ecological, social, and economic risks, challenging fisheries management at various spatial scales—from local to international. In this study, we applied a semi-quantitative climate risk assessment (CRA) to the Mediterranean small pelagic and demersal fisheries in relation to a diversity of climate-related drivers and impacts. We assessed the risks of climate change effects on demersal and small pelagic fisheries resources, fishing operations, livelihoods, and wider social and economic implications in seven sub-regions of the Mediterranean Sea. Ocean warming, an increase in extreme weather events, and changes in vertical stratification resulted in the most important climate drivers. Overall, climate drivers present higher risks to fishing resources and livelihoods than to fishing operations and wider social and economic impacts. The study puts into evidence geographic differences in terms of the drivers and impacts, with the south-eastern Mediterranean being the sub-region with higher risk levels for both fisheries, while the north-central Mediterranean also showed important risk levels for the demersal fisheries. The study furthermore discusses the most plausible adaptive measures in management, policy, research, and livelihoods to be potentially applied to address high priority risks, as well as various implementation concerns and technical effectiveness issues. Enhancing adaptive fisheries management needs to be the primary strategy for this region to reverse the high number of overfished stocks and build resilience to climate change.

Keywords: adaptation measures, climate change, climate-related risks, demersal fisheries, Mediterranean Sea, pelagic fisheries