{rokbox title=|Arrastrero :: Foto: Ana Morillas (COB-IEO)| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-antoni-quetglas-synchronous-combined-effects-of-fishing-and-climate-within-a-demersal-community-2012-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-antoni-quetglas-synchronous-combined-effects-of-fishing-and-climate-within-a-demersal-community-2012.jpg{/rokbox}

Quetglas, A., Ordines, F., Hidalgo, M., Monserrat, S., Ruiz, S., Amores, Á., **Moranta, J.**, and **Massutí, E.**
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Synchronous combined effects of fishing and climate within a demersal community
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Abstract: Accumulating evidence shows that fishing exploitation and environmental variables can synergistically affect the population dynamics of exploited populations. Here, we document an interaction between fishing impact and climate variability that triggered a synchronic response in the population fluctuations of six exploited species in the Mediterranean from 1965–2008. Throughout this period, the fishing activity experienced a sharp increase in fishing effort, which caused all stocks to shift from an early period of underexploitation to a later period of overexploitation. This change altered the population resilience of the stocks and brought about an increase in the sensitivity of its dynamics to climate variability. Landings increased exponentially when underexploited but displayed an oscillatory behaviour once overexploited. Climatic indices, related to the Mediterranean mesoscale hydrography and large-scale north Atlantic climatic variability, seemed to affect the species with broader age structure and longer lifespan, while the global-scale El Niño Southern Oscillation index (ENSO) positively influenced the population abundances of species with a narrow age structure and short lifespan. The species affected by ENSO preferentially inhabit the continental shelf, suggesting that Mediterranean shelf ecosystems are sensitive to the hydroclimatic variability linked to global climate.

Keywords: climate, ENSO, fishing, Mediterranean, synchrony, trawling