

Assessing the response of exploited marine populations in a context of rapid climate change: The case of blackspot seabream from the Strait of Gibraltar [Evaluación de la respuesta de las poblaciones marinas explotadas en un contexto de cambio climático rápido: El caso del besugo de la pinta en el estrecho de Gibraltar]

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There is a growing concern over the decline of fisheries and the possibility of the decline becoming worse due to climate change. Studies on small-scale fisheries could help to improve our understanding of the effect of climate on the ecology of exploited stocks. The Strait of Gibraltar is an important fishery ground for artisanal fleets. In this area, blackspot seabream (*Pagellus bogaraveo*) is the main species targeted by artisanal fisheries in view of its relevance in landed weight. The aims of this study were to explore the possible effects of two atmospheric oscillations, the North Atlantic Oscillation (NAO) and the Arctic Oscillation (AO), on the capture of blackspot seabream in the Strait of Gibraltar, to determine their association with oceanographic conditions, and to improve our knowledge about the possible effects of climate change on fisheries ecology so that fishery management can be improved. We used two types of data from different sources: (i) landings per unit of effort reported from a second working group between Morocco and Spain on *Pagellus bogaraveo* in the Gibraltar Strait area, for the period 1983-2011, and (ii) the recorded blackspot seabream landings obtained from the annual fisheries statistics published by the Junta de Andalucía (Andalusian Regional Government). Our results indicate that the long-term landing of blackspot seabream in the Strait of Gibraltar is closely associated with atmospheric oscillations. Thus,

prolonged periods of positive trends in the NAO and AO could favour high fishery yields. In contrast, negative trends in NAO and AO could drastically reduce yield. © 2014 Museu de Ciències Naturals de Barcelona.

Arctic oscillation

Blackspot seabream

Climate

Fisheries collapse

North Atlantic Oscillation

Oceanography

Arctic Oscillation

artisanal fishery

climate change

fishery management

North Atlantic Oscillation

perciform

population decline

stock collapse

Morocco

Spain

Strait of Gibraltar