

Assessing the influence of the North Atlantic Oscillation on a migratory demersal predator in the Alboran Sea

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This study analysed the regime shift of tope shark and the overlapping taxa *Raja* spp. in the Alboran Sea. Tope shark and *Raja* spp. landings are both significantly correlated with the North Atlantic Oscillation (NAO). A significant negative correlation was found between *Raja* spp. landings and tope shark landings. This finding suggests that climatic oscillations affect regime shifts between these taxa in the Alboran Sea. Studies are scarce on the dependence of deep-sea communities on biological and physical processes occurring in near-shore pelagic environments mediated by large-scale atmospheric phenomena. Similar to previous studies on the Mediterranean Sea, a close association was found between landings of deep-water animals and the NAO. The main conclusion is that the regime shift of tope shark and the overlapping taxa *Raja* spp. is mediated by a negative NAO and accumulated snow. © Marine Biological Association of the United Kingdom 2015.

atmospheric oscillation

Galeorhinus galeus

Mediterranean

NAO

Raja

ray

regime shift

tope shark

atmospheric circulation

deep-sea organism

demersal fish

Mediterranean environment

migratory species

North Atlantic Oscillation

pelagic environment

predator

shark

Alboran Sea

Mediterranean Sea

Animalia

Galeorhinus galeus

Raja