

Influence of the arctic oscillations on the sardine off Northwest Africa during the period 1976-1996

Báez J.C.

Santamaría M.T.G.

García A.

González J.F.

Hernández E.

Ferri-Yáñez F.

Studies on the impact of climate change on exploited marine fishes are numerous. However, the response of fish stocks to these effects is hard to predict, due to the inherent uncertainty in these models, and the lack of knowledge of the biological response of species in short time periods. Thus, some authors have modelled the response of marine species to large-scale climate phenomena. The main aim of the current study is to analyze the possible effect of the main large-scale climate indices: Atlantic Multidecadal Oscillation (AMO), the North Atlantic Oscillation (NAO), and Arctic Oscillation (AO) and Southern Oscillation Index (SOI) (as measured to El Niño/La Niña episodes) on the variability of the NW African sardine (*Sardina pilchardus*) stock. The sardine fishery data has its origin in the fishing activity of Spanish purse seine fleet in NW Africa from 1976 to 1996 developed within the Fishery Agreement between Spain-Eu and Morocco. These fisheries data refer to one FAO statistical area along the African coast between the parallels 29°N and 26°N. The results indicate that there is an effect driven by AO affecting sardine relative abundance in the study area, at least for the period 1976-1996. Moreover, this relation between AO and sardine relative abundance could involve the Sea Surface Temperature. © 2019 Universite de Paris VI (Pierre et Marie Curie). All rights reserved.

Ao

Cecaf

Fisheries

Small Pelagic

Arctic Oscillation

Atlantic Multidecadal Oscillation

climate change

climate effect

clupeoid

exploitation

fishery management

North Atlantic Oscillation

pelagic fishery

Southern Oscillation

stock assessment

uncertainty analysis

Africa

Pisces

Sardina pilchardus