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Coastal ecosystems management

Effect Of Climatic Parameters On The Mackerels In Tunisia

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Abstract: Pelagic species are particularly abundant in Tunisian coasts and especially in the central eastern part named Sahel of Tunisia and defined by three delegations: Mahdia, Monastir and Sousse. Mackerels are some of these species which have a significant fluctuation of their production. Two species are present in Tunisian fisheries; Scomber scombrus and Scomber japonicus where productions are usually combined by the office authority. In this study, and in order to explain the annual fluctuation of these species in the Sahel of Tunisia, two analyzes were realized; the stock assessment of these species using global models and the effect of some climatic parameters on the production and abundance main the CLIMPROD software. Climatic parameters retained are the sea surface temperature and the rainfall during 12 years from 1998 to 2010. The results of the sheaffer model show an overfishing these latest years. Global Models combining the fishing effort with climatic parameters (Sea surface temperature and rainfall) separately show that the sea surface temperature has a positive effect and the rainfall a negative effect. Thus, however the Jackknife test is about 31%, the model conclude that the sea surface temperature explain 61% of the fluctuation of the catch per unit of effort. The value of this test is more significant for the rainfall with 75% showing that the rainfall when combined with effort explain 86% if the variability of the catch per unit of effort.