



IROCWA

AN INTEGRATED APPROACH TO THE BIOCLIMATIC SENSITIVITY OF A SHELLFISH SPECIES EXPLOITED IN WEST AFRICA

The workings of coastal ecosystems are exposed to many alterations associated with global change. If we are to manage the planet's resources sustainably, we need a better understanding of species' responses to variation in their environment. In Senegal's Sine-Saloum Delta, the bloody cockle (*Senilia senilis*) is a key bivalve species for the groups of women who harvest it, and who are themselves a cornerstone in the delta's socioecological system. However, given our current knowledge we are unable to predict how this species will respond to variations in its living conditions in the context of global change.

The IROCWA project therefore aims to describe this cockle's biological response to a wide range of bioclimatic conditions, past and present. This will provide both knowledge and tools to help predict the future consequences of climate change on this key species in West Africa.

The prospect of reconstructing the environmental conditions which *Senilia senilis* has encountered over several centuries provides an unprecedented context in which to conduct research. This will make it possible to track a bivalve species' biological response to an aridification phenomenon which is one of the biggest environmental changes observed worldwide. When combined with a quantitative reconstruction of the paleoclimate, experimental ecophysiology and bioenergetics modelling, these historic data will yield a better understanding of this species' biological sensitivity to environmental change. They will also allow population-level projections.

Partners

Research centers

IRD LEMAR, Brest (29) [Project Developer]
Laboratoire d'Océanographie et du Climat :
Expérimentation et Approches Numériques
(UMR 7159 du MNHN, CNRS, IRD,
UPMC), Paris
Université Cheikh Anta Diop de Dakar /
Institut Universitaire de Pêche et
Aquaculture (UCAD/IUPA), Dakar (Sénégal)

Funder

Agence Nationale de la Recherche

Labelisation

06/09/2019

Overall budget

855 K€