



Synergistic effects of climate and fishing on the demersal ecosystems of the North Atlantic and the Western Mediterranean (Acronym: ECLIPSAME, from the Spanish title)

Funding: : Funded by the National RDI Plan of Spain.

Total project funding: 146.250,00 €

Financing to IEO:

Duration: 2013-2015

Principal researcher: [Enric Massutí Sureda](#) (COB-IEO)

The project *ECLIPSAME* aims to analyze the synergistic effects of climate and fishing on demersal marine ecosystems, through a comparative approach between marine ecosystems of the North Atlantic and the Western Mediterranean.

The *overall goal* of the project is twofold.

- First it tries to identify when changes occurring in marine ecosystems and their populations are caused by: a) climate b) fishing impact, or c) a combination of both.
- Second, it analyzes the existence of synchronous fluctuations between areas in the abundance of some key species of the ecosystem (e.g. elasmobranchs and cephalopods), and

exploited species (e.g. hake, whiting, red shrimp, lobster, red mullet, octopus).

The project is structured around three main lines:

1. produce and make accessible to the scientific community a database assembling all the currently available information for each study area on climate, oceanography, biology and fisheries
2. analyze the spatiotemporal evolution of climatic, oceanographic, fisheries, biological and ecological processes
3. model the synergistic effects of climate and fishing on populations, communities and marine ecosystems. To do so, the project brings together researchers from both the field of physical oceanography, which will focus on the study of climatic and hydrodynamic forcing, and biological oceanography, which will prioritize the study of population dynamics of target species.

{rokbox title=|Esquema general en el que se representan todos los componentes principales que se propone analizar. El proyecto aborda el estudio de los efectos sinérgicos del clima y la pesca, teniendo en cuenta que ambos factores no operan de forma independiente si no que interactúan en sus efectos :: Fuente: Proyecto ECLIPSAME| thumb=|images/stories/ieo/gruposinvestigacion/ecoredem/eclipsame/centro-oceanografico-baleares-proyecto-eclipsame-esquema-2013.jpg|}images/stories/ieo/gruposinvestigacion/ecoredem/eclipsame/centro-oceanografico-baleares-proyecto-eclipsame-esquema.jpg{/rokbox}

The project is based on the analysis of historical climate, oceanographic and biological data, existing and available to researchers involved in the project. The project will provide useful information about how the climate and the fishing interacts changing biodiversity, species distribution and dynamics of populations, communities and ecosystems. It is essential to understand the past in order to produce reliable predictions, properly and efficiently managing the future of marine ecosystems, especially in the current context of climate change, which require the application of adaptive management to exploit these ecosystems and their living resources, without altering its resilience. It also provides a high potential for knowledge transfer to the administration, fishing sector and others users of the marine environment, in relation to the sustainability of fisheries.

Key words:

The scientific team:

- Enric Massutí (C.O. de Balears)
- Antoni Quetglas (C.O. de Balears)
- Pere Oliver (C.O. de Balears)
- Frances Ordines (C.O. de Balears)
- María Valls (C.O. de Balears)
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- Lucía Rueda (C.O. de Balears)
- Antonio Esteban (C.O. de Murcia)
- Luís Gil de Sola (C.O. de Málaga)
- Antonio Punzón (C.O. de Santander)
- Juan Gil (C.O. de Cádiz)
- Marina Delgado (C.O. de Cádiz)
- José Castro (C.O. de Vigo)
- Sebastià Monserrat (*Universitat de les Illes Balears*)
- Lorenzo Ciannelli
- Nils C. Stenseth
- Jan G. Hiddink
- Ken H. Andersen

Activities:

- [The first meeting of the ECLIPSAME project ends](#)

Scientific production:

- [Unveiling the influence of the environment on the migration pattern of the Atlantic pomfret \(*Brama brama* \) in North-eastern Atlantic waters](#)
- [Response of a temperate demersal fish community to global warming](#)
- [Effect of intra-specific competition, surface chlorophyll and fishing on spatial variation of gadoid's body condition](#)
- [N90 index: A new approach to biodiversity based on similarity and sensitive to direct and indirect fishing impact](#)