

Understanding recruitment processes using coupled biophysical models of the pelagic Ecosystem.

REPRODUCE will identify the main processes determining recruitment strength of two key southern European pelagic species (sardine and anchovy), and provide recruitment models that integrate information from the stock abundance, structure and distribution together with environmental data. REPROdUCE focus on two case studies with large differences in their ecological characteristics and human exploitation patterns, the Bay of Biscay (Atlantic case study) and the North Aegean Sea (Mediterranean case study), and analyses the recruitment of small pelagic fish in relation to the state of the population (demography, structure and biomass –internal mechanisms) and the overall pelagic ecosystem, including human exploitation (habitat suitability, food availability and predation rates - external mechanisms). The project will build from available but scattered knowledge of processes and interactions working at different trophic levels of the pelagic ecosystem, integrating it into a full life cycle pelagic ecosystem model, centered on the role of small pelagic fish as key forage species of these ecosystems.

Project Objectives:

- To develop conceptual models of the different trophic levels of the pelagic ecosystem for the project case studies.
- To develop and validate numerical integrated ecosystem models of the full-life cycle of sardine and anchovy within the pelagic ecosystem.
- To identify the main recruitment drivers and their relative influence for small pelagic fish in the two case studies of the project
- To develop recruitment based fishery indicators that allow.
- To improve the short and medium-to-long term management of these stocks.

. *Palabras clave:* recruitment, biophysical models, pelagic ecosystem, Bay of Biscay, North Aegean Sea.

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Componentes:

- Instituto Español de Oceanografía (IEO) (14 investigadores)
- Hellenic Centre for Marine Research (HCMR) (9 investigadores)

- Institut français de recherche pour l'exploitation de la mer (IFREMER) (4 investigadores)
 - Centro Tecnológico de Investigación Marina y Alimentaria (AZTI) (4 investigadores)
 - Instituto Português das Pescas e do Mar (IPIMAR) (4 investigadores)
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