{rokbox title=|Merluza (Merluccius merluccius) :: Foto: Jorge Hernández, IEO| thumb=|images/stories/ieo/imagenespublicaciones/merluza_hidalgo_ecography_640_thumb.jpg |}images/stories/ieo/imagenespublicaciones/merluza_hidalgo_ecography_640.jpg{/rokbox}

Hidalgo, M., Rouyer, T., Bartolino, V., Cerviño, S., Ciannelli, L., **Massutí, E.**, Jadaud, A., Saborido-Rey, F., Durant, J. M., Santurtún, M., Piñeiro, C. and Stenseth, N. C., (2011). **Context-dependent interplays between truncated demographies and climate variation shape the population growth rate of a harvested species.**
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Abstract: Fisheries ecologists traditionally aimed at disentangling climate and fishing effects from the population dynamics of exploited marine fish stocks. However, recent studies have shown that internal characteristics and external forcing (climate and exploitation) have interactive rather than additive effects. Thought most of these studies explored how demographic truncation induced by exploitation affected the response of recruitment to climate, identifying a general pattern revealed to be difficult as interactions are often case-specific. Here we compared five exploited stocks of European hake *Merluccius merluccius* from the Atlantic Ocean and Mediterranean Sea to investigate how the interaction between internal characteristics and external forces affect the variability of the population growth rate and their consequences on recruitment. Our results show that demographic truncation induces a novel population scenario in which the growth rate is maximized when the reproductive stock is younger and less diverse. This scenario is shaped by the climate variability and the fishing pattern. The population growth rate becomes more dependent on the maturation schedule and less on the survival rates. The consequences for the recruitment dynamics are twofold; the effect of density-dependent regulatory processes decreases while the effect of the density-independent drivers increases. Our study shows that the interaction between internal characteristics and external forces changes across geographic locations according to 1) the importance of demographic truncation, 2) the influence of the climate on the regional hydrography and 3) the spatiotemporal heterogeneity of the physical environment to which fish life history is adapted.

Keywords: Demographic truncation, combined effects fishing-climate, European hake, population growth rate