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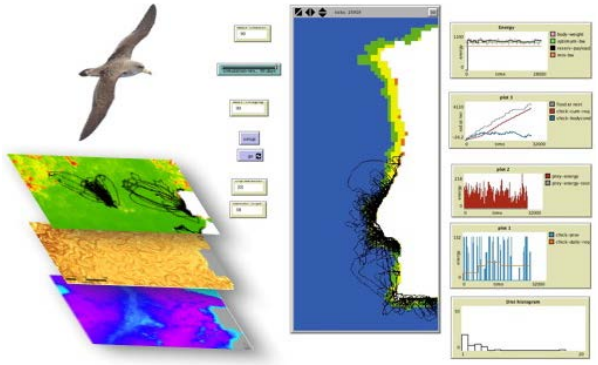
Orientation: Ocean Observation and Global Change
Specialization Area: Global Change
Research Line: 1.10 Impact on Biodiversity



PhD project: **SEAbirdCHANGE: How do seabirds foraging patterns indicate climatic changes? A spatially-explicit dynamic framework to forecast the Cory's shearwater distribution in the North Atlantic Ocean**

Supervisors: Dr. João Alexandre Cabral (University of Tras os Montes and Alto Douro)
Dr. Ines Alvarez (University of Vigo)

Summary: Marine top predators such as seabirds are influenced by food web dynamics that can be disrupted by both top-down and bottom-up influences, and therefore are good sentinels of environmental changes in the marine environment. Here we develop an innovative modelling approach to predict the Cory's shearwater (*Calonectris diomedea borealis*) foraging distribution, facing scenarios of potential impacts of climate change in the North Atlantic Ocean. To capture the effect of oceanic processes on the Cory's shearwater spatial-dynamic distribution patterns we will perform bottom-up analysis of individual foraging behaviour, based on a long-term dataset of tracked individuals from the Azores, Madeira and Berlenga archipelagos. This novel predictive framework will integrate the combination patterns of Agent-Based Modelling, System Dynamics and Geographic Information Systems, through a Stochastic Dynamic Methodology, aiming to support the decision-making and management strategies concerning the conservation of top predators and key pelagic habitats.