Characterizing ecologically significant areas to evaluate marine conservation efforts in the South Brazilian Continental Shelf

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Ecologically Significant Areas (EBSAs) are regions of high productivity and species richness, and their identification and characterisation can be an important tool for marine conservation. We compiled information for the South Brazilian Shelf to evaluate if the existing areas of marine conservation are sufficient to protect biodiversity. Species distribution for ichthyoplankton, fish, birds and marine mammals was overlayed to identify biodiversity hotspots, producing maps of species richness ranging from 0 (absence of species) to 1 (maximum species richness). Suitable areas for ichthyoplankton distribution were accessed by species distribution modelling (MaxEnt) using *in situ* temperature, salinity and bathymetry (GEBCO). For the other groups, their distribution was obtained from the IUCN and BirdLife spatial datasets. We defined biodiversity hotspots as marine areas with pixels values of species richness greater than the upper 95th percentile. Then, we used this information to characterise the EBSAs in our study area. Our results revealed a biodiversity hotspot of approximately 35.909,9 Km². Of this, only approximately 115km² (0.32%) are currently protected according to the World Database on Protected Areas. This reveals that the concept of EBSAs can be useful to identify conservation regions and evaluate efforts to achieve conservation of marine ecosystems.