



SEECTOR: Significant Ecological areas for pelagic species and Conservation challenge in the Southern Indian Ocean

Targeted territory: French Southern and Antarctic Lands (Crozet and Kerguelen)

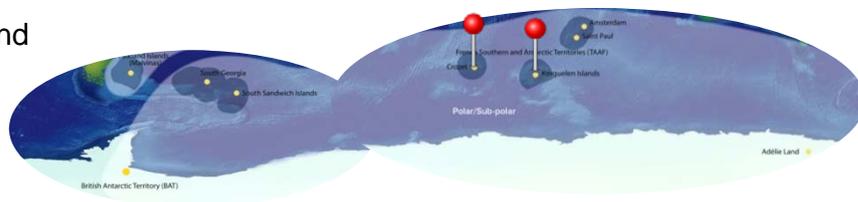
Total project budget: 74,370 Euros

BEST 2.0 grant awarded: 74,370 Euros

Duration: January 2018 – December 2018 (12 months)

Lead organisation: Centre National de la Recherche Scientifique (CNRS)

Partner organisation: Museum National d'Histoire Naturelle (MNHN)



Background:

Projections of climate change predict important environmental changes in the subantarctic zone of the Southern Ocean, resulting in changes to the behaviour of top predators and serious impacts on their populations. This was observed recently during a warm climatic anomaly in the Crozet area. However, the impact of such changes on mid-trophic organisms is unknown and there is a relative scarcity of

information on mid-trophic organisms, especially zooplankton and micronekton, which constitute the prey of numerous top predators.

To evaluate the impact of the projected changes for marine biodiversity and to effectively prioritise the protection of the ocean in this region it is crucial to correctly localize the pelagic habitats of mid-trophic organisms and to identify the areas in which trophic interactions with top predators occur.

Description of the Project:

The project will focus on the areas in the South of the Crozet exclusive economic zone (EEZ) and to the East of Kerguelen, recognised as being ecologically important from predator biologging and preliminary micronekton data. It will gather information on the current spatial patterns linked to critical habitats of mid-trophic organisms and hotspots of interactions with top predators in the South Indian Ocean using analyses of acoustic measurements and samples of zooplankton and micronekton combined with biologging of seals and seabirds. It will identify ecologically-relevant physical features in a sector where management is considered and provide information on likely drift of these features in the next decades using climate change projections.

The approach adopted in the SEECTOR project will improve the zoning of functional hotspots both inside and outside the French EEZs in the subpolar area of the Indian Ocean, and provide useful information to prevent conflict of interests with other activities. Assessing the fluctuations of physical features and predicting their drifts under climatic scenarios is of critical importance for defining MPAs as their boundaries typically remain unchanged for long periods.

Intended results:

To improve the knowledge and conservation status of pelagic ecosystems in the Southern Ocean by:

- Defining pelagic Marine Protected Areas in the EEZs of Crozet and Kerguelen and in international waters.
- Identifying measures to mitigate anthropogenic and climate-related pressures.
- Participating in the international CCAMLR (Convention on the Conservation of Antarctic Marine Living Resources) working group on the project of circumpolar MPAs network in the subpolar domain of the Southern Ocean.



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