

Integrated Circumpolar Studies of Antarctic Marine Ecosystem to the Conservation of Living Resources (AMES) – Brazil

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In this core program we will study the biomass and production capacity of large marine ecosystems, focusing particularly on the geographic distribution and abundance of Antarctic krill, plankton and nekton, considering a combination of factors such as the interaction between species life cycles, ocean circulation, frontal systems, sea-ice cover, food supply, and concentration of vertebrate predators, such as fish, birds, and marine mammals. We will provide an integrated view of the communities and their functioning within the oceanic ecosystems. This will be done through ecosystem-based surveys to map the biological production at all trophic levels, and by comparing the trophic structure and interactions. Such studies are vital for the development of integrated large-ecosystem models that can be used to manage exploited species in an open ocean pelagic environment.

Some component projects will cover large spatial regions such as the Southwest Atlantic at relatively low resolution while others focus on smaller areas to study in more detail the role of key species within the trophic web and consider the effect of seasonality. Key physical processes within the marine ecosystems will be monitored and modelled to establish the physical framework for exploring the variability of the biological production.

Objectives: Obtain a synoptic circumpolar assessment of the Antarctic marine pelagic resources, their environment, food supply and their main predators.