

**Geological and Paleontological integrated studies on the long term  
South America and Antarctic Peninsula connection, and their evolutionary consequences  
over the modern biota of Chile and Argentina (GeoPaSAA)**

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The evolutionary connections between South America and Antarctica involves distinct dimensions. The first one is the geological dimension, the history of the link and breakup of the southern part of South America and the Antarctic Peninsula. The second one is the paleontological evidence of the biotical change associated with the biogeographical patterns and the geological setting. Both dimensions are conditioning the third dimension, the present marine and terrestrial biota, explained through an historical point of view, where the actual distributions of taxa are a reflex of the interaction between the climatic change, flora and fauna migrations, reduction and expansion of ecospace and extinctions during the Meso-Cenozoic lapse of time. The objective of the proposal is to study the interaction of these three dimensions in the Antarctic Peninsula and Chile-Argentina. A interdisciplinary team of scientist (Geologists, paleontologists and biogeographers) will work mainly in the South Shetland islands and Antarctic Peninsula trying to compleat the paleontological and geological database, with the sampling of the sedimentary outcrops of western Antarctic Peninsula and adjacent islands. That will be called "first phase", and it will be carried out on summer of 2006-2007. in parallel, another team will begin the study of the biota and outcroppings of the extreme south-west of South America. After the sampling period, the geological setting, and the inclusion into databases, becomes a correlation with the other groups working with INACH (Instituto Antártico Chileno) and the other countries leading IPY proposals. The activities culminate with the generation of biological and geological evolution models for the area between the Mesozoic and the Cenozoic (Triassic-Miocene), through geological tools (fision tracks, isotopes, etc.), biogeographic patterns (similarity index, parsimony analyses of endemicity, etc) and paleontological-stratigraphical correlations.