



SCARMarBIN.be



BIODIVERSITY.AQ

# ANTARCTIC BIODIVERSITY NETWORKS

IPY's virtual heritage



CAML is supported by the  
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# SCAR-MarBIN and ANTABIF

**SCAR's Marine Biodiversity Information Network ([www.scarmarbin.be](http://www.scarmarbin.be)) and the new Antarctic Biodiversity Information Facility ([www.biodiversity.aq](http://www.biodiversity.aq)) are two overarching initiatives striving at giving free and open access to all Antarctic biodiversity information using the best available Web2.0 technologies. Mainly funded so far by the Belgian Science Policy Office, the networks have gained considerable momentum, fitness for use and recognition by the SCAR community.**

**SCAR-MarBIN and ANTABIF are now seeking international support, through private foundations, polar institutes, universities, and academies.**

Our vision is inspired by article III.1c of the **Antarctic Treaty**:

« [...] Scientific observations and results from Antarctica shall be exchanged and made freely available. »

New results exposed during the very recent IPY (Oslo, 2010) and SCAR (Buenos Aires, 2010) conferences show that the Antarctic is facing **extremely rapid change** which is seriously challenging its ecosystems and their functioning. In this alarming framework, the norms amongst the scientific community are also changing swiftly, as it is now accepted that highly needed primary scientific data should become available publicly, as fast as possible.

SCAR's Marine Biodiversity Information Network (SCAR-MarBIN) and the new Antarctic Biodiversity Information Facility (ANTABIF) answer these needs, as valorization platform, which offer free and open access to baseline information on Antarctic biodiversity as well as links to relevant environmental data and models.

Initiated as an **IPY** umbrella project, SCAR's Marine Biodiversity Information Network has reached its objectives in terms of managing and giving access to the biodiversity data arising from the exceptional sampling effort coordinated during the five-year Census of Antarctic Marine Life (**CAML**, [www.caml.aq](http://www.caml.aq)). Tangible results (figures as of August 2010) have been achieved, including:

SCAR-MarBIN.be **webportal**: 800,000 visitors, 6,000,000 hits, 40,000,000 records downloaded

First complete Register of Antarctic Marine Species (**RAMS**), from microbes to whales: 70 specialists involved, data on 16,500 taxa, about 9,000 species validated

Antarctic **biogeography** database: over 1,000,000 species occurrence records, from 180 distributed datasets

Best **experts** are onboard: data is constantly updated, checked and improved in a transparent way

A **community** effort: hundreds of scientists from SCAR involved, from many countries

Data can be discovered, visualized, downloaded, directly accessed or linked using **Web2.0** services

The ANTABIF project ensures the continuation of SCAR-MarBIN by building an overarching network that will encompass both the marine and the terrestrial realms, thanks to a tight collaboration with the Australian Antarctic Division. This project is designed to allow the SCAR community to play a significant role in broad scale contexts such as the Global Biodiversity Information Facility (**GBIF**), the Ocean Biogeographic Information System (**OBIS**), the Southern Ocean Observing System (**SOOS**), the Polar Information Commons (**PIC**) or the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (**IPBES**).

Both networks have strong applications answering scientific, conservation or management needs. Significant, increasingly flowing, high-quality data is now available to tackle complex scientific questions, challenging or fine-tuning established theories in the fields of polar biodiversity, biogeography, or evolution. Applications also include to possibility to encompass **evidence-based conservation**, using unprecedented amounts of publicly available data and transparent methods available to the scientific community. The networks are recognized as the major, authoritative source of biodiversity data by conservation/management agencies, such as the Commission for the Conservation of Antarctic Marine Living Resources (**CCAMLR**) or United Nations Environmental Program - World Conservation and Monitoring Center (**UNEP-WCMC**). Modeling, predictions of change are now possible, and constantly improving, thanks to the immediate availability of data and the involvement of many specialists from different fields all over the world.



Ongoing community developments include the design of dynamic **Antarctic Field Guides**, tailor-made identification tool for the user, built on-the-fly to be embarked during Polar expeditions, the first **Biogeographic Atlas of the Southern Ocean** using including constantly updated predictive maps, access to **georeferenced DNA data** (barcoding), allowing delineation of complex evolutionary processes. Finally SCAR-MarBIN and ANTABIF are also at the edge of the development of emerging scientific disciplines such as **Conservation Biogeography** or **Biodiversity Informatics**.

**SCAR-MarBIN and ANTABIF are catalyzing a major change in the way Polar science is being conducted, by inducing new norms in data publishing and usage, allowing true integration, international collaboration and cross-disciplinarity, in the spirit of IPY and the Antarctic Treaty. As such, these networks need to be continued as a tangible IPY legacy, to ensure biodiversity data remains discoverable, open, linked, useful and safe for the future generations.**

