

The Census of Antarctic Marine Life, and its legacy 10 years on

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The Census of Antarctic Marine Life (CAML 2005-2010) was a component of the Census of Marine Life (2000-2010) that brought together a community of Southern Ocean researchers and helped them exchange expertise and coordinate at various levels. The International Polar Year was a pivotal component of CAML, and included 18 major research voyages to Antarctica and the Southern Ocean. This formed a new benchmark for the assessment of Southern Ocean biodiversity. While previously thought to be low in species diversity, the Southern Ocean has an unexpected richness of life.

At the end of five years of extensive biodiversity exploration and assessment by CAML, a new initiative, the multi-authored "CAML Biogeographic Atlas of the Southern Ocean", was established under the aegis of the Scientific Committee on Antarctic Research (SCAR) to provide an up-to-date synthesis of Antarctic and sub-Antarctic biogeographic knowledge. In an unprecedented international collaboration 147 scientists from 91 institutions across 22 countries (Australia, Belgium, Brazil, Canada, Chile, Denmark, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Poland, Portugal, Russia, South Africa, Spain, Switzerland, the UK and the USA) combined their expertise and knowledge and published the Atlas in 2014.

Data gathered during CAML was preserved in the Scientific Committee on Antarctic Research Marine Biodiversity Information Network (SCAR-MarBIN), which is now part of the Antarctic Biodiversity Portal (biodiversity.aq) which is part of the EU Lifewatch Infrastructure. Biodiversity.aq is a SCAR product, currently supported as one of the Belgian contribution to the European Lifewatch-ERIC (European Research Infrastructure Consortium). *The goal of lifewatch is to provide access to: Distributed observatories/sensor networks; Interoperable databases, existing (data-)networks, using accepted standards; High Performance Computing (HPC) and Grid power, including the use of the start-of-art of the so-called Cloud and Big Data paradigms technologies; Software and tools for visualization, analysis and modeling.*

The knowledge and data gathered as a result of CAML will continue to help inform conservation policy, including the debate over whether or not to establish marine protected areas in the open ocean. Sophisticated environmental models coupled with existing species distribution data provide a valuable outlook on the possible future distribution of key species as they adapt to climate change.

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