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### *The SCAR Southern Ocean Diet and Energetics Database*

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Information related to diet and energy flow is fundamental to a diverse range of Antarctic and Southern Ocean biological and ecosystem studies. In particular, ecosystem modelling and assessments of status and trends are heavily dependent on such information. The SCAR Expert Groups on Antarctic Biodiversity Informatics (EG-ABI) and Birds and Marine Mammals (EG-BAMM) are collating a centralized database of such information to assist the scientific community in this work.

The database includes data on the energetic content of various organisms, and diet data from conventional (e.g. morphological identification of prey remains) and modern molecular studies (e.g. stable isotopes, fatty acids, and DNA). It is accompanied by supporting material, including a collection of allometric equations for estimating body size and other properties from body part measurements, and software tools in R and Python for extracting and manipulating the data. It is a product of the SCAR community and open for all to participate in and use. See <https://data.aad.gov.au/trophic/>

Here we present an overview of the database, data access and software, and a brief summary of some initial results related to this project. These include an assessment of variability in Southern Ocean food web structures, a review on energetic values, the use of stable isotopes and isoscapes to characterize prey fields, and DNA diet metabarcoding as a marine conservation and management tool.