



Energetic Value of Zooplankton and Nekton of the Southern Ocean: A Review

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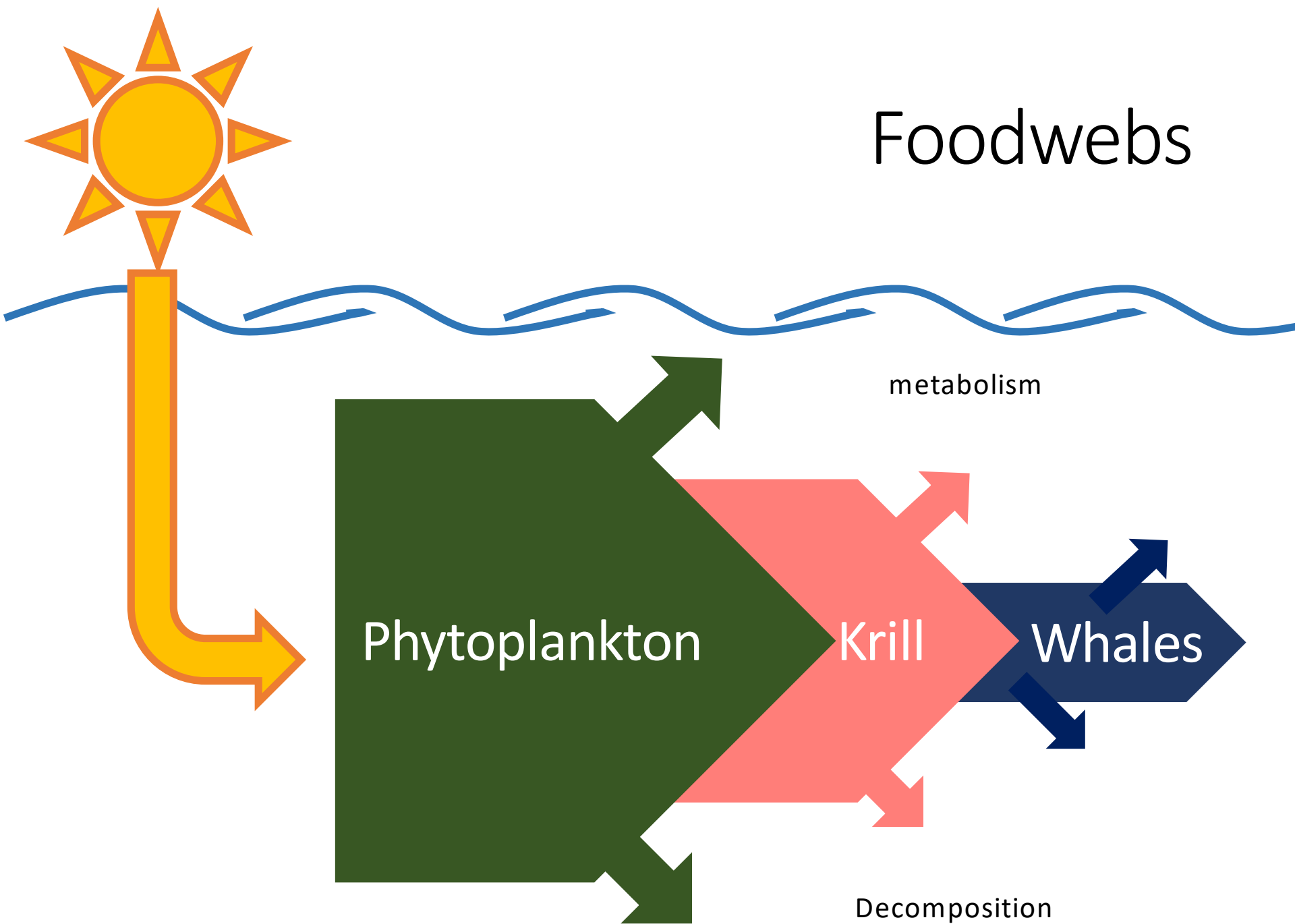
SCAR Southern Ocean Diet and Energetics Database

SCAR Expert group on Antarctic Bioinformatics with contributors

Non-exhaustively:

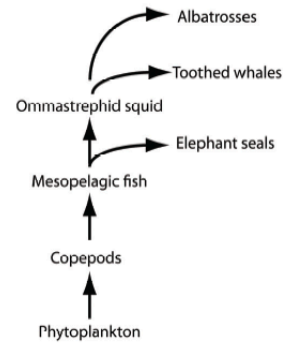
Antonio Agüera - Rachael Alderman - Claudia Andrade - Julia Blanchard - Madeleine Brasier - Thomas Brey - Alison Cleary - Yves Cherel - Maëlle Connan - Bruce Deagle - Hauke Flores - Miguel Guerreiro - Nicole Hellessey - Mark Hindell - Luis Hückstädt - Simon Jarman - Kit Kovacs - Mary-Anne Lea - Silvia Lourenço - Stacey McCormack - Julie McInnes - Jess Melbourne-Thomas - Loïc Michel - Ben Raymond - Ryan Reisinger - Andy Revill - **Fokje Schaafsma** - Jonny Stark - Gabriele Stowasser - Arnaud Tarroux - Megan Tierney - Rowan Trebilco - *Anton Van de Putte* - Jan van Franeker - Filip Volckaert - Andrea Walters - José Xavier

Foodwebs

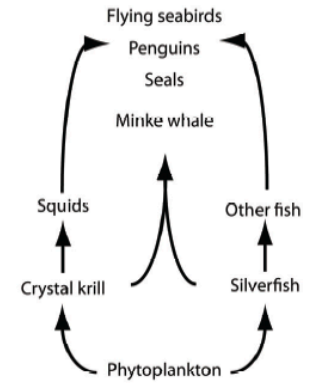


Foodwebs

- There is a variety of foodwebs

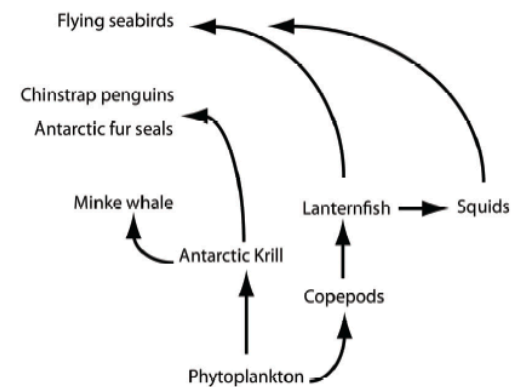


Antarctic Polar Front

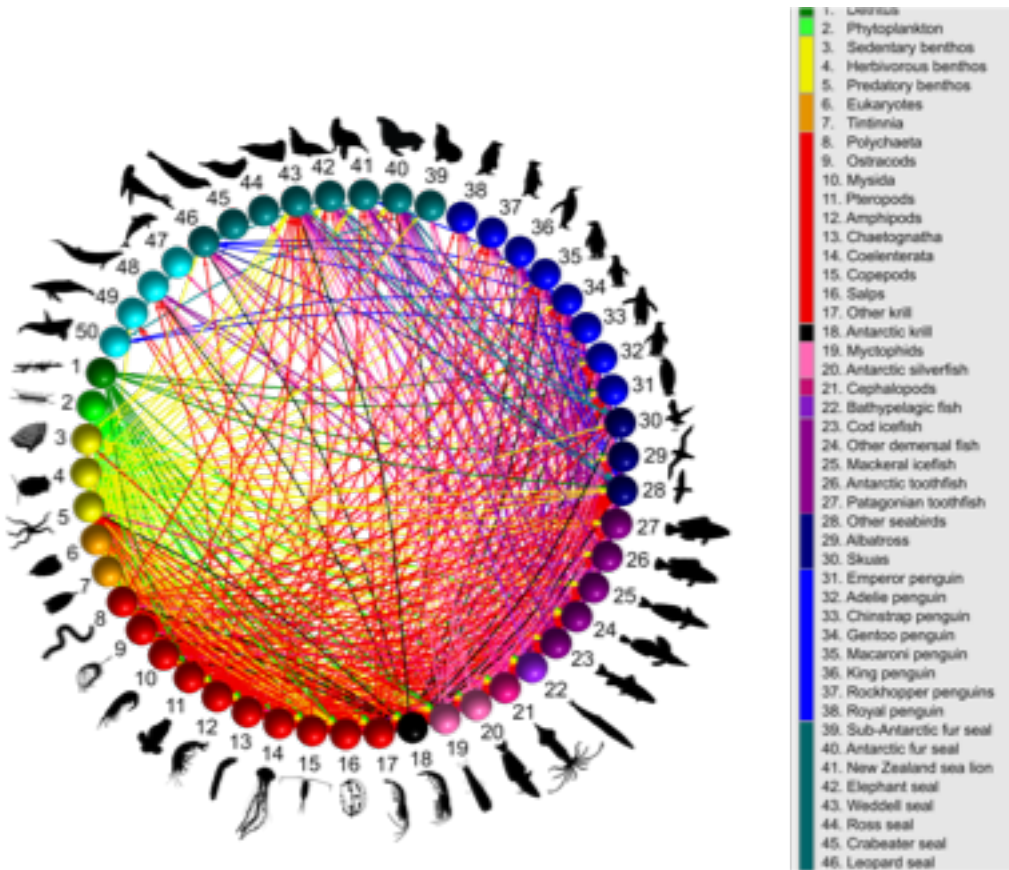


Shelf Zone

- See e.g. Rodhouse & White, 1995
- e.g. Thomas & Greene, 1998
- e.g. Hopkins et al., 1993



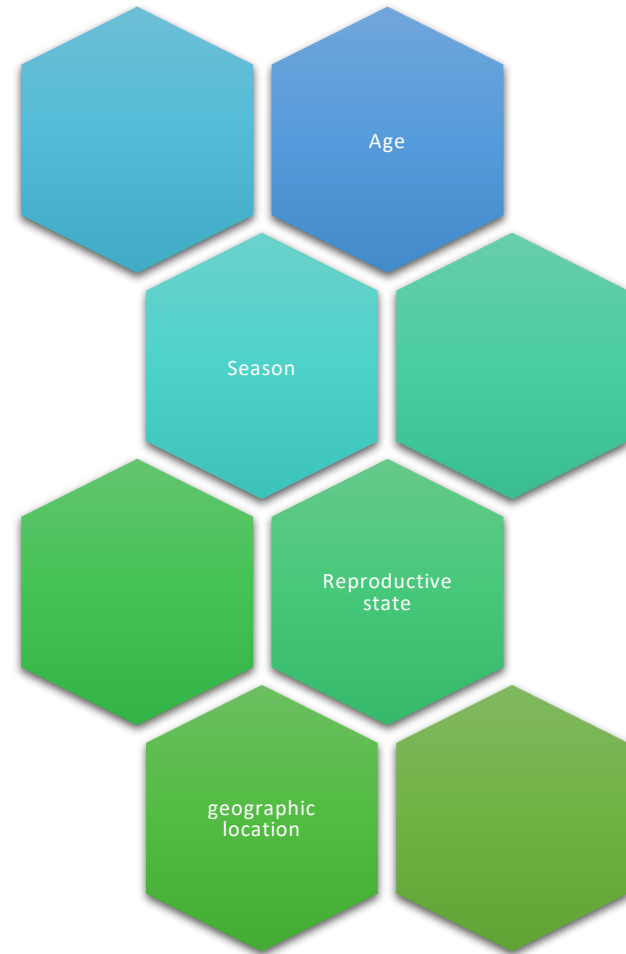
Marginal Ice Zone



- Stacey A. McCormack et al. (in press)
How Universal is the Keystoneness of Krill in Southern Ocean Food Webs?
- B Jakobshorn
- 20.06.2018
- 17:00-17:15

Foodwebs

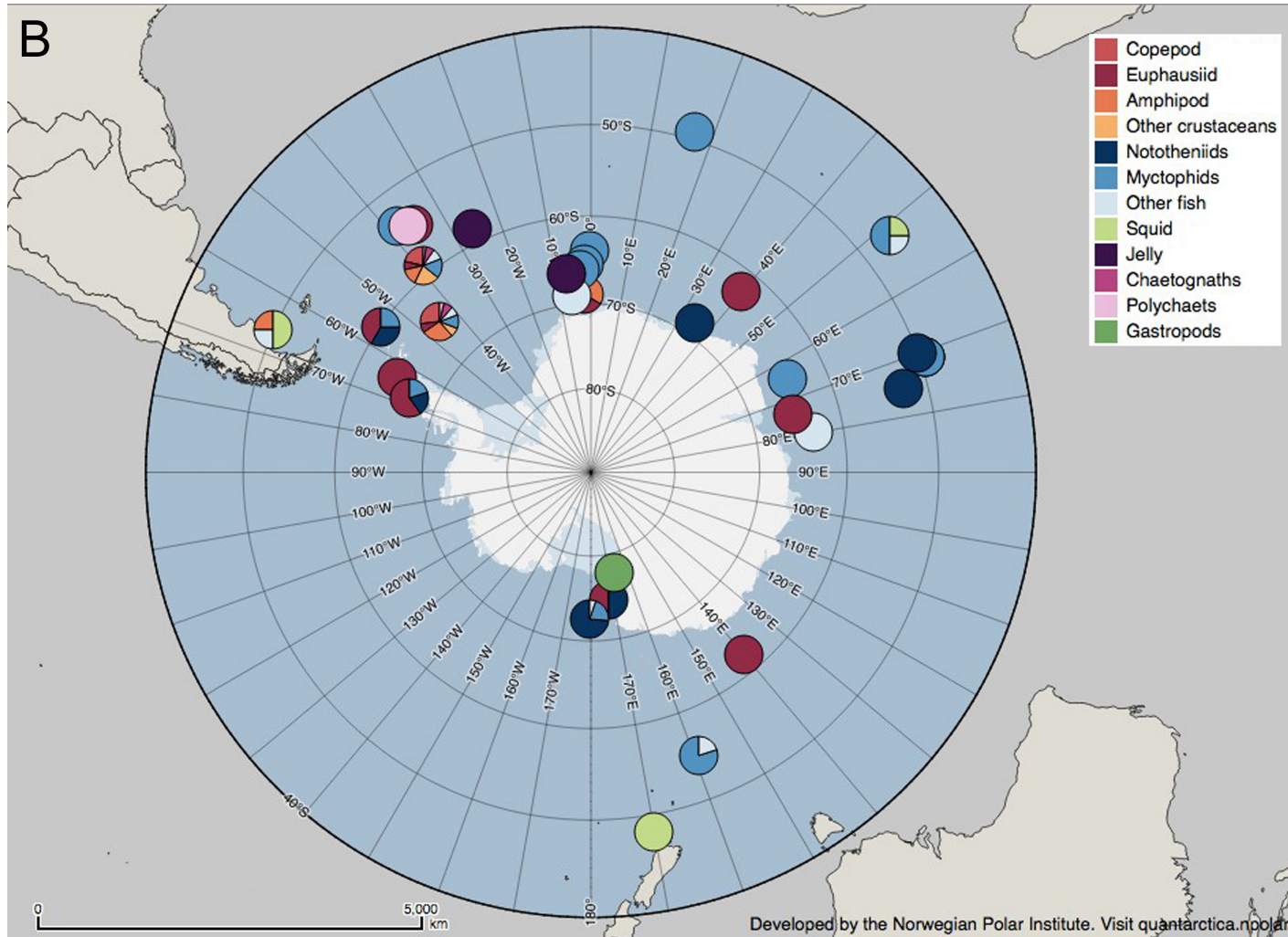
What
determines
Energy
content?





SCAR Southern Ocean Diet and Energetics Database: Data types

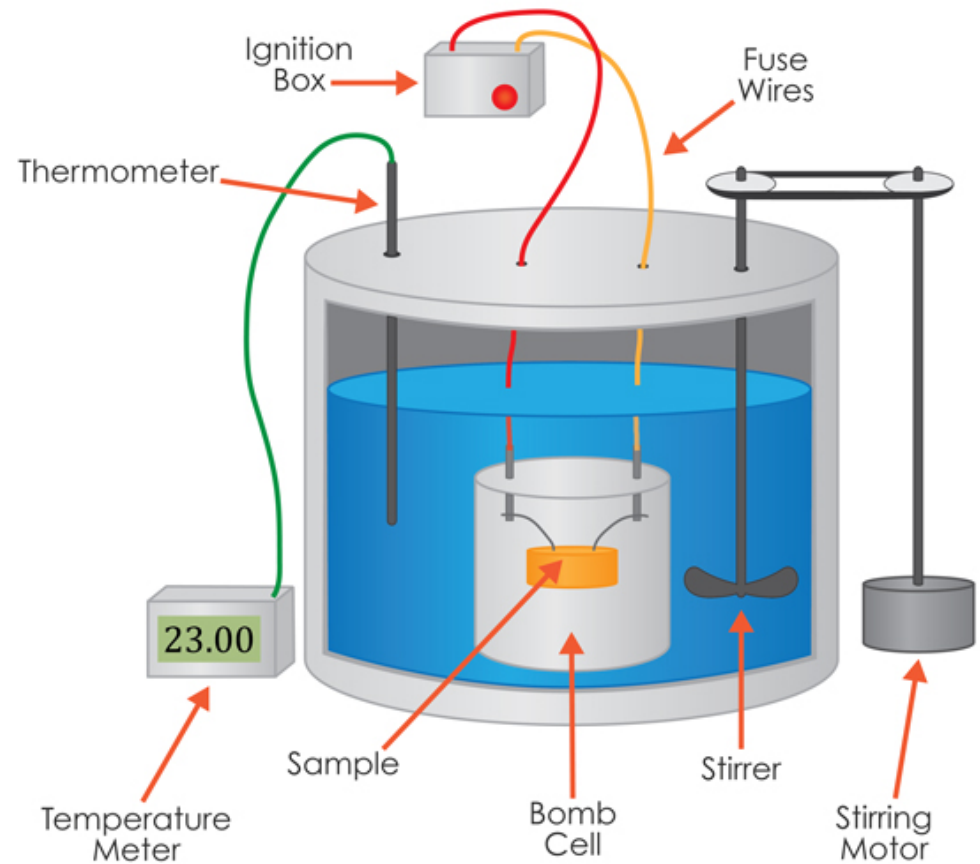
Sampled locations



Measuring energy density

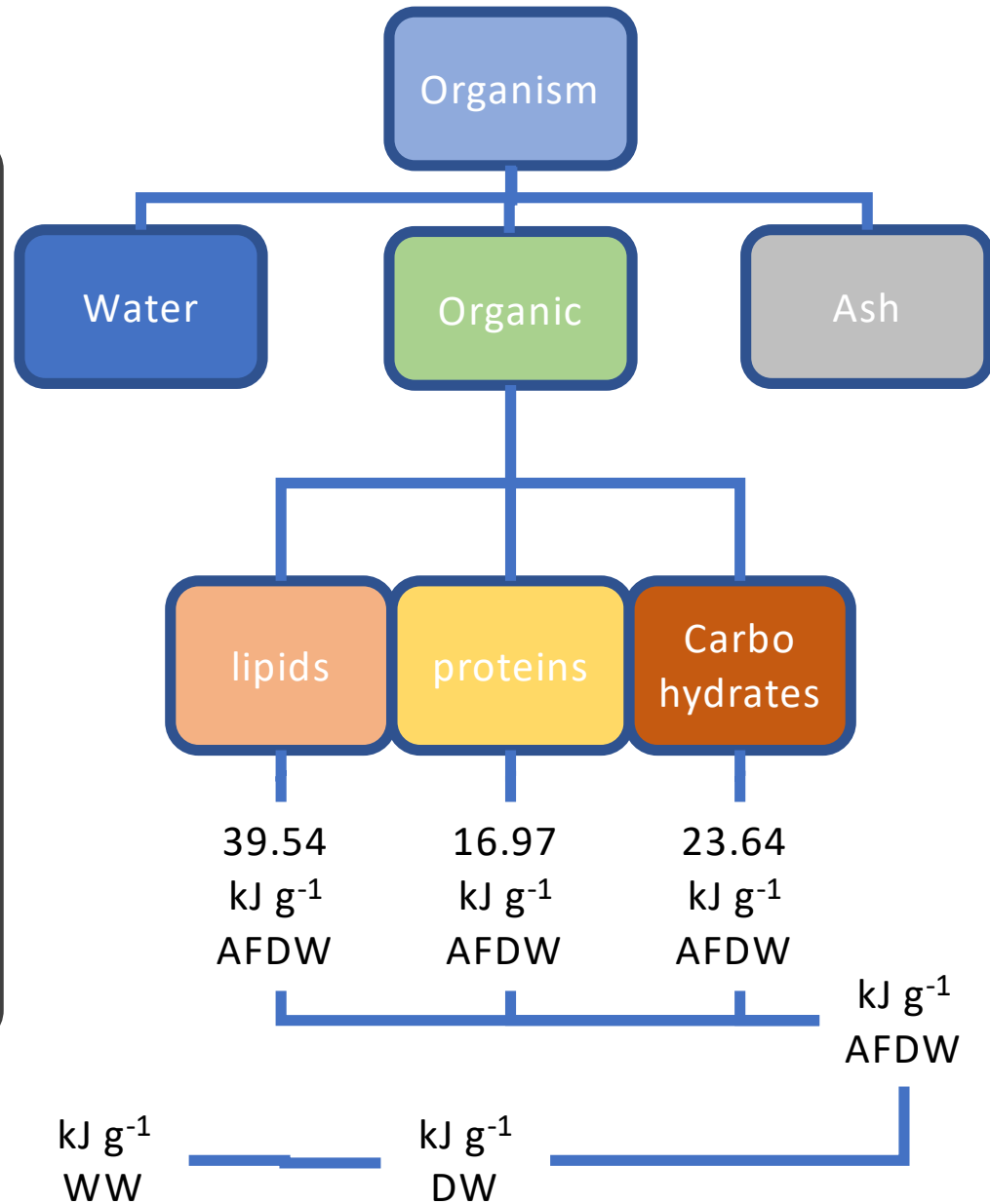
- *Bomb calorimetry*

Bomb Calorimeter

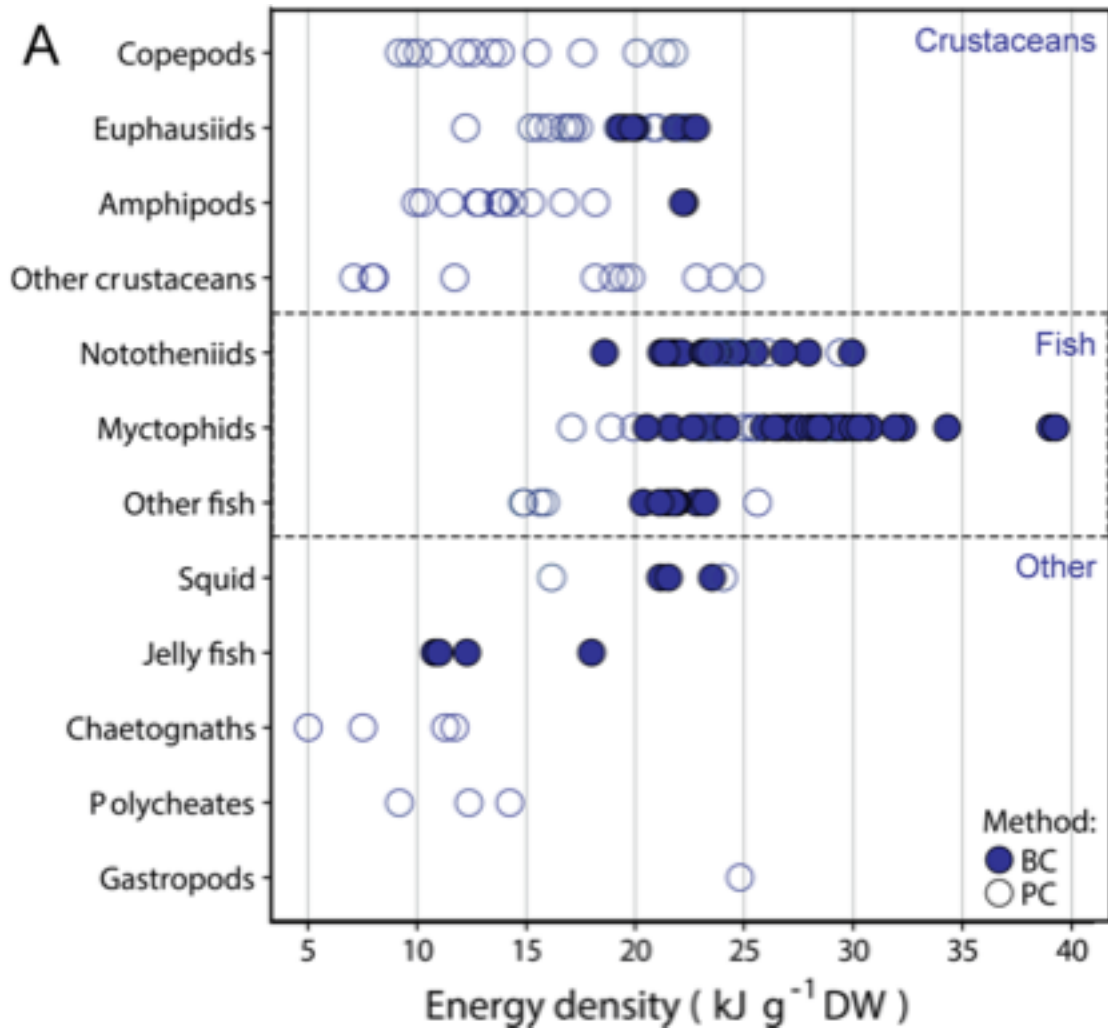


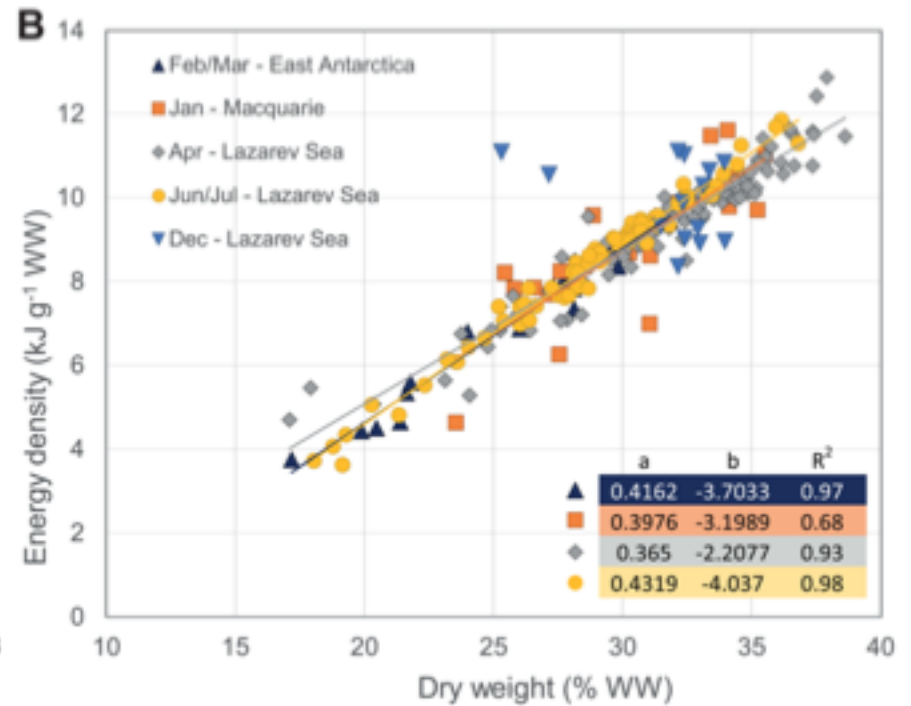
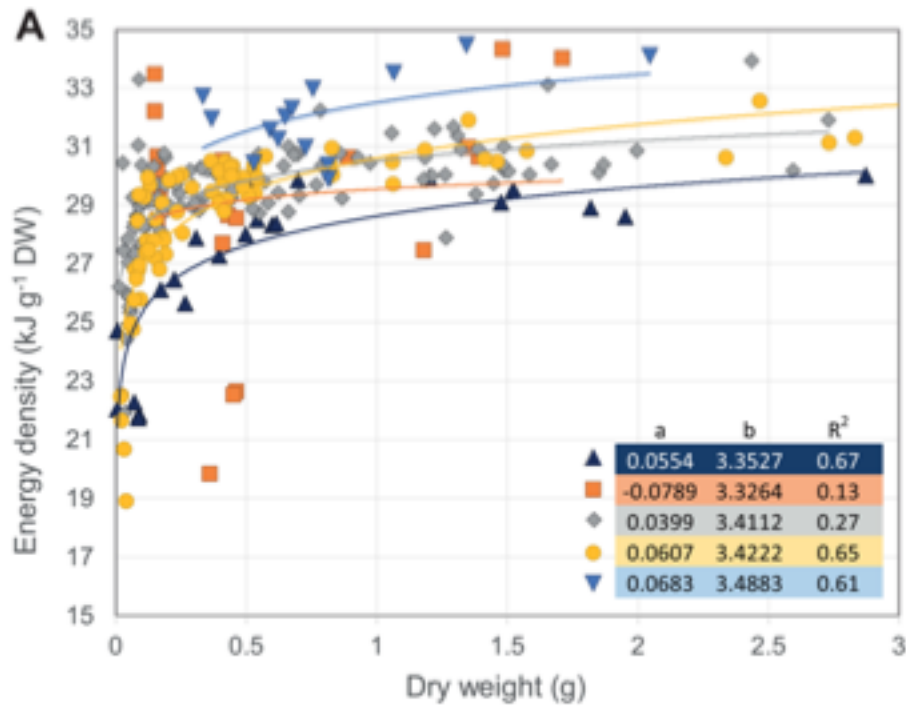
Measuring energy density

- *Bomb calorimetry*
- *Proximate composition*



Interspecies comparison





Effects of size and season



Conclusion

- large amount of data is available
- skewed towards a few large, abundant and relatively easily accessible taxa
- information on the seasonal and regional variability of energy densities is still limited
- small and gelatinous zooplankton

How can I get involved?

- **Contribute data** (particularly from under-represented taxa, regions, or data types). If you have data from an unpublished paper, the data can be embargoed until publication.
 - templates: <https://github.com/SCAR/DietAndEnergetics>
 - or, particularly if you have a lot of data, we may be able to script a batch import
 - submit in parallel with journal papers?
- **Join a group** working on a paper
- **Use the database and R packages**, contribute analytical code (package or code snippets)
- **Make suggestions** so that this is more useful to the community
 - how you might use such data
 - what analytical functionality is needed
- Contact: ben.raymond@aad.gov.au



Data citation



The database is released under a CC-BY license: please cite these data when using. If you have used data from a small number of individual sources, please cite the original data sources and additionally acknowledge this database. For example:

Smith J (2008) On the use of stable isotopes. *Journal of Stable Isotope Stuff* **123**:100–110. Data obtained from the SCAR Southern Ocean Diet and Energetics Database

If you have used data from many individual sources, the overall citation for this database is: Scientific Committee on Antarctic Research (2018) Southern Ocean Data and Energetics Database. However, you are encouraged to cite all primary sources (possibly in supplementary material, if there are many).