

Biovolume calculation – methods and assumptions

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Biovolume data are calculated for all taxa, or taxon groupings found in the following collections:

- IMOS - Phytoplankton Abundance and Biovolume (reference stations)
- IMOS - Phytoplankton Abundance and Biovolume (CPR)

Geometric shape, or combinations of shapes for taxa are based on literature information (Hillebrand et al., 1999; Sun and Liu, 2003). Where available, size parameters were taken from direct measurements made on Australian samples, but in the absence of this data, literature values were applied or sourced from published compilations (Leblanc et al., 2012; Olenina et al., 2024). In instances where no data is available to estimate cell biovolume, or cell size estimates were too vague / indeterminate, these have been left blank. References consulted for biovolume data are recorded against each taxa to maintain traceability. Each taxa has one size associated with it in the database, therefore, if looking at data over time at a certain location, an increase in biovolume should be interpreted as more bigger cells are present, not that cell size is increasing.

Conversions from biovolume to biomass at the functional group level are based on literature (see Table 2 (Davies et al., 2016)). Species specific conversions are rare but should be used where pertinent (e.g. *Phaeocystis antarctica* (Vogt et al., 2012)).”

References

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