

## ***Interactive comment on “Picophytoplankton biomass distribution in the global ocean” by E. T. Buitenhuis et al.***

**Anonymous Referee #2**

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The dataset represents an important contribution to the fields of marine ecology and ocean biogeochemistry. Marine picophytoplankton are significant contributors to global primary production and knowledge of the basin-scale distributions of both cyanobacterial and eukaryotic picophytoplankton will be fundamental to understanding how marine ecosystems respond to environmental change.

The database is well structured and the netcdf format ensures compatibility with a wide range of plotting/analytical packages.

Although the coverage of the dataset is rather uneven across ocean basins, this is not unexpected and does not undermine the usefulness of the dataset. These data cover a wide range of environmental conditions (latitude, temperature, trophic status - coastal, open ocean, oligotrophic, upwelling). The dataset also includes some of the longest

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open-ocean time-series data for flow cytometric measurements (BATS and HOTS).

The authors also derive estimates of cell carbon based primarily on cell sizes estimated by the forward scatter, which is a standard approach. To derive these estimates for such an extensive dataset is impressive, and will be extremely important to assess the relative contribution of picophytoplankton to the standing stock of ocean microflora.

As a potential user of this database, I am grateful to the leading author and all the contributors for putting this impressive dataset together. I am confident it will be widely used by marine ecologists and biogeochemists (both modellers and observationalists).

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Interactive comment on Earth Syst. Sci. Data Discuss., 5, 221, 2012.