

Interactive comment on “Distribution of known macrozooplankton abundance and biomass in the global ocean” by R. Moriarty et al.

D. J. Carlson (Editor)

ipy.djc@gmail.com

Received and published: 5 June 2013

As Chief Editors for ESSD, we have decided to accept this MAREDAT macrozooplankton dataset and description (ESSD-2012-5) for publication in ESSD. We consulted with the guest editors for the MAREDAT Special Issue, looked carefully at MAREDAT products already published, and gave very close attention to reviewer comments and the authors' replies.

The MAREDAT project set admirable goals for their overall product and for each of the sub-projects devoted to specific Plankton Functional Types (PFTs), goals dependent not only on their own standards and efforts but also on the cooperation of literally hundreds of oceanographers around the world. When those prospective partners neither

C450

responded nor contributed, reviewers have noted the deficiencies but unfairly, in our view, criticized the product when in fact the authors have documented a vigorous solicitation effort. The MAREDAT effort reminds us that, too often, as happened within this macrozooplankton case, holders of original plankton data have not contributed those data to national, topical or regional databases, the very databases that form the essential core of integration efforts such as MAREDAT. We also note, after many many unfulfilled reviewer nominations for this paper, that a community that did not respond, for whatever reason(s), to repeated data requests very likely also would not respond to review requests. Nevertheless, three reviewers submitted substantial, useful and thoughtful comments. The authors have, in our judgement, provided clear and well-documented responses to each of the reviews. As both authors and reviewers point out, a proper definition of macrozooplankton remains elusive based on long-standing but unresolved issues related to size, taxon, function and sampling; the absence of a useful and agreed definition made both the preparation and the review of this particular dataset much more difficult.

The MAREDAT team adopted necessary and useful standards and procedures, including a common grid, a mutual requirement to convert abundance to biomass for all PFTs, a uniform statistical approach to high-value outliers, retention of original taxonomic information whenever possible, and a shared commitment to display and discuss seasonal, hemispheric and regional patterns for each PFT. Present and future users of this unique global atlas will thank the MAREDAT leaders for those commitments to uniformity. Within each PFT, however, those shared standards and procedures imposed an additional degree of complexity when, for example, conversion from abundance to biomass proved not straightforward for a specific functional type or the available observations proved too sparse, after all mutually agreed transformations and conversions, to support discussion of spatial or seasonal distributions. In several cases throughout the MAREDAT products, reviewers noted this 'ill fit' of standards or procedures to the specific data types without recognizing the need and utility of those standards for the larger effort. Looking at the full set of MAREDATA data products, we can identify sev-

C451

eral cases where adherence to the tight standards adopted for the integrated product resulted in limited data coverage for a specific PFT. Any of the individual PFT groups might have adopted different and more satisfactory (from a reviewer point of view) processes and procedures, but only at the cost of incompatibility with other elements of the global atlas.

We believe that the composite MAREDAT atlas represents an unprecedented accomplishment, produced in a timely manner to meet urgent needs in biodiversity monitoring and global modelling. Along with the authors, we recognize the dual outcomes of the project and the products: far from complete but an intensely valuable first insight. We see no other data centres or data services making, or prepared to make, an equivalent effort to produce a coherent global plankton compilation. We see need and justification for including this macrozooplankton data - despite acknowledged deficiencies - and its associated description as a valued and published component of the MAREDAT Special Issue in ESSD.

Dave Carlson

Hans Pfeiffenberger

Interactive comment on Earth Syst. Sci. Data Discuss., 5, 187, 2012.