

## ***Interactive comment on “Global Ocean Particulate Organic Carbon Flux Merged with Satellite Parameters” by C. B. Mouw et al.***

### **Anonymous Referee #2**

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Review of Mouw et al. “Global particulate organic carbon flux merged with satellite parameters”

The authors present a compilation of POC flux observations, from various sources, and various corresponding satellite-derived data, including primary production and % microplankton. The dataset is a valuable contribution as it collates ~ 30 individual datasets and time series. I recommend publication after a few minor revisions.

General comments: There is a lack of description of the satellite data. It's not clear why they've been included here alongside the POC data. Some sentences to describe why you've included this data, thoughts on what you or other investigators might explore with those data, etc. would be welcome.

Specific comments: The mixed layer depth is a monthly climatology but the satellite

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data are from 8-day SeaWiFS record – is that correct? Please make it clear that data are on different timescales in section 2.1 and at lines 107-108 and 110.

Lines 111-112: The reference to cup samples doesn't apply to all the data, e.g. Thorium derived fluxes. Please make this clear.

Line 160: Please report the 5x5 pixels in kilometres too, as the spatial scale of the satellite observations won't be obvious to all readers.

Lines 172-174: If you fit a Martin curve to this data, what 'b' do you get? A global scale estimate of b will be of interest to many readers.

Table 2: I suspect there might be some duplication in some of these datasets. Were duplicates searched for and removed?

Figure 1: I can't distinguish the 3 shades of blue referred to in the caption. A scale for the size of the circles is needed.

Figure 2: I wasn't sure what 'the darker bars' referred to in this figure.

Figure 3: A scale for the size of the circles is needed.

Figure 4: Specify in the caption what the bars and crosses signify.

Figure 5: In the caption, the references to subplots D and E have got mixed up.

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