

Interactive comment on “A compilation of global bio-optical in situ data for ocean-colour satellite applications – version two” by André Valente et al.

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Received and published: 24 June 2019

Dear Referee #1,

Thank you for the comments provided. We have addressed all the comments as shown below.

Referee #1,

General comments: This study updates the global high quality ocean-color in-situ datasets, increasing samples of Chl-a, aph, etc., adding new parameter, TSM, and enhance the format to improve operability and to keep original information as much as possible. It also includes definition of the variables and explanation of each data source. This revised dataset will help the ocean color community to use the same

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database for comparison among satellite ocean color algorithms and improve the interoperability among the different satellite datasets. Publication can be strongly recommended but authors should check some small technical issues.

Comment 1: About the new variable, TSM, the tag name, TSM (g/m^3) in the document should be consistent to one in the data file (insitodb_iopskdtsm.tab), TSS (mg/l). Authors should check again the unit or definition of the TSS in the dataset (insitodb_iopskdtsm*.tab). Some TSM data (especially from "mermaid_BioPotEuroFleets-k0") seem too low even if the Chl-a range (not so small: 0.28mg/m^3 - 17.28mg/m^3) and possible variation of the inorganic SM are considered.

Response: As for the suspiciously low TSM data from "mermaid_BioPotEuroFleets-k0", this was an error. Thank you for finding this. Following the reviewer's comment, it was found that all TSM data from "mermaid_BioPotEuroFleets-k0" was erroneously divided by 1000. The reason is likely that the raw data provided to MERMAID was misspelled "g l-1" instead of "mg l-1". This was now corrected, and the corrected data files have been added to PANGAEA (<https://doi.pangaea.de/10.1594/PANGAEA.898188>). As for the different tag names (TSM in article and TSS in PANGAEA), PANGAEA changed TSM to TSS because that is how TSM is called in their system. It is not possible to change that, so the following comment has been added to the corrected data files in PANGAEA: "tss=tsm in article".

Comment 2: The following sentences about the rrs BRDF correction are confusing a little bit: P5 L31-32: "Thus, for consistency with satellite "rrs" product, only in situ "rrs" that included the latter normalization were included in the compilation." P12 L22-23: (MERMAID) "Remote-sensing reflectance was calculated by dividing by pi the original irradiance reflectance provided." I suppose the final value, "rrs", is not the "Remote-sensing reflectance" and it have been calculated by normalizing the "Remote-sensing reflectance". Is that right?

Response: That is correct, the compiled "rrs" has a BRDF correction. The sentence

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P5 L31-L32 was changed to: "For consistency with satellite "rrs" product, the latter normalization was applied to the in situ "rrs"."

As for sentence P12 L22-23 in MERMAID section, it was changed to "Remote-sensing reflectance was calculated by dividing by π the original "fully-normalized" water-leaving reflectance ("Rw_ex"), which was the water-leaving reflectance ($Rw = \pi Lw / Es$), with a correction for the bidirectional nature of the light field (Morel and Gentili, 1996; Morel et al., 2002)."

The sentence in P5 L21-23 was deleted. The content of this sentence is now in the new sentence in MERMAID section.

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2019-27>, 2019.