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Interactive comment on "Global maps of Forel-Ule index, hue angle and Secchi disk depth derived from twenty-one years of monthly ESA-OC-CCI data" *by* Jaime Pitarch et al.

Anonymous Referee #1

Received and published: 1 December 2020

The authors present a publicly available, monthly, global dataset of the Forel-Ule index, hue angle, and Secchi disk depth derived from the ESA Ocean Colour Climate Change Initiative satellite times series of spectral remote-sensing reflectances. Generally speaking, the manuscript is well written and straightforward – almost terse, which I find acceptable as the algorithms and approaches are well documented. Overall, I see no major show-stoppers in its publication. Minor comments are provided below, most of which focus on grammar and presentation.

Line 38: Suggest expanding satellite acronyms, adding agencies, and adding mission timelines, e.g., "the NASA Moderate Resolution Imaging Spectroradiometer onboard

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Discussion paper

Aqua (Aqua-MODIS; 2002-present)" – or, changing "present" in the former to the last year included in OC-CCI.

L42: Please indicate spectral dependency and provide units the first time a variable is introduced.

L72: Remove out of place "Rrs" or revise to "calculate them from Rrs".

L80: "Downloaded product is the" is grammatically awkward. Do you mean "The source product for all derived variables presented in this dataset . . .".

L99: Expand CIE acronym.

General comment on uncertainties: Just confirming that temporal, pixel-level uncertainties are not possible? This is generally apparent from this section, but would still be useful for clarity to state as such up front.

L135: Suggest mentioning that any systematic bias in the geophysical products will not be reduced like random noise.

L154: What is the remaining uncertainty estimate after 7.5% was subtracted in quadrature? Or, was the subtraction included in the "within 20%" stated on line 149? Even if reported elsewhere, the spectral values of calculated Rrs uncertainties (used on line 57) are worth repeating here. What other terms are included in the (quadrature-expressed) uncertainty budget?

Line 252: Global "patterns". And, suggest rewording to "Despite the scale ranging from 0 to 21".

Line 264: Neither the 0.25-deg nor the 1-deg datasets have been described yet. Generation of these datasets needs to be presented earlier in the manuscript.

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