

Interactive comment on “Evaluation of MERIS products from Baltic Sea coastal waters rich in CDOM” by J. M. Beltrán-Abaunza et al.

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This is an interesting paper, knowing how hard it is to validate several processing chains in complex waters. Few comments:

- I think there should be a reference for the MERIS 3rd reprocessing, maybe this one from MERIS QWG http://earth.eo.esa.int/pcs/envisat/meris/documentation/meris_3rd_reproc/MERIS_3rd_Repr
- The "standard MEGS processor (Case-2...)" should be identical to Case-2 regional processor C2R; at least in the principle. You write it in section 4 but it could maybe be said before. Also I think a specific reference is missing in section 2.3.2 (either the same as C2R, Doerffer and Schiller, 2007, or ATBDs 2.12 and 2.25 on this page

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<https://earth.esa.int/instruments/meris/atbd/>). This explains very consistent results between "MEGS" and "Case-2R" in some cases, but see next comment.

- PCD_1_13 should not be considered for "MEGS", it is only meaningful for the Case-1 branch, not the Case-2 products you considered here. It also could explain problems like "the standard processor removed 60% of the match-ups".
- For "MEGS/Case-2", do you really consider the rhov from the NN, which are only intermediate outputs of ODESA (whereas the standard rhov outputs in L2 are from the Case-1 branch) ? Not sure from what you write in section 4. If so, it should be better describe for reader's comprehension, with new references for the Case-1 branch.
- You write "The atmospheric correction in MEGS was more accurate for these cases than FUB and C2R", but if it concerns rhov from the Case-1 atmospheric correction, it cannot explain results on SPM.
- In legends of tables 6 to 11 it's no clear if ICOL is used or not (although it is clear in the text).
- The "RMS_RD" naming is a bit confusing to me; the RMS classically includes both bias and noise and is an absolute measure of error; here you first adapt it considering the relative difference, which could be $\sqrt{1/N \sum_i ((y_i - x_i)/x_i)^2}$, but also you remove the bias and define RMS_SD by $\sqrt{1/N \sum_i ((y_i - x_i)/x_i - MNB)^2}$, so at the end the couple (MNB, RMS_RD) characterize the distribution of the relative error, and "RMS" is a bit confusing to me. Also, the RMS_SD is very large, sometimes bigger than the MNB, this shows a somehow "random" error and MNB could be meaningless (I mean, not robust, very sensitive if you just remove 1 point; the classical RMS would be more robust).
- You explain some problems of the FUB NN by use of Coastlooc dataset in the training, but to my knowledge this is also true for the bio-optical NN of Case-2R and MEGS/Case-2, at least the spectral shape of IOP.

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- "ESA" is missing in last sentence of acknowledgement

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