**Ocean Science
Discussions**

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Comment

# *Interactive comment on* "Assessment of MERIS ocean color data products for European seas" *by* G. Zibordi et al.

**Anonymous Referee #2**

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The manuscript by Zibordi et al. describes the performance of MERIS ocean color products for the European seas, determined relatively to the 2012 data reprocessing (3rd reprocessing). In their analysis, the authors compared, using a set of standard statistical metrics, satellite ocean color products (spectral normalized water leaving radiance, LWN, and derived standard products such as pigment concentrations and absorption coefficients of optically significant seawater components) with the in situ reference data derived from different international measurement programs (AERONET-OC, BiOMaP and CoASTS). Moreover, the results of the MERIS 3rd reprocessing are compared with the data derived from the MERIS 2nd reprocessing and from other satellite ocean color missions (MODIS-Aqua and SeaWiFS). The analysis of the MERIS 3rd reprocessing products, performed for case 1 waters, indicates a significant underestimation of the Lwn, especially at the blue wavelengths, and an important overestimation

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of the algal-1 pigment index. The results showed for case 2 waters indicate an overestimation of the pigment concentration (algal-2 index) comparable with those observed for case 1 waters, a good agreement for TSM and an underestimation for adg (443). An important issue observed and underlined in the paper is the significant reduction of the matchup points between the 2nd and 3rd reprocessing. In my opinion the paper is clear and well written. All the data (in situ and satellite) and processing techniques are meticulously described. The reference list is suitable and accurate. The results are clearly explained and the conclusions seem appropriate. In conclusion I think the paper should be considered for publication.

Comments

As pointed out in the paper, an important aspect of the 3rd MERIS reprocessing is the reduction of the matchup points. In order to try to evaluate how this issue affects the results, I suggest to perform an additional analysis over the Lwn. I suggest to select the 83 matchups of the 3rd reprocessing within the 160 matchups of the 2nd reprocessing and to evaluate the statistical tests (and plots) over this subset. The results of this supplementary analysis should be the actual differences introduced in the Lwn by the 3rd reprocessing.

Minor issues

Page 221 – Line 3: insert "et al." in the reference

Page 223 – Line 29: insert "Bailey et al., 2010" in the reference list

Interactive comment on Ocean Sci. Discuss., 10, 219, 2013.