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Interactive comment on "Diversity II water quality parameters for 300 lakes worldwide from ENVISAT (2002–2012)" *by* Daniel Odermatt et al.

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Dear referee 2,

Thank you very much for your interest in our manuscript and your valuable comments. One of your main concerns, data accuracy, is already referred to in our reply to referee 1, and we kindly ask you to check our suggestions on how to deal with this requirement. We agree with you that, for a specific lake or application, a detailed presentation of the respective data availability would be useful. However, this would require a detailed and long listing per lake if done at the level of detail you recommend. In our view this would be too complex, in particular because it differs for most of the water quality parameters due to different valid pixel expressions. But we suggest to include a global

map, where coloured point markers at lake centroid locations indicate the fraction of monthly products where observations are available for at least 50% of the lake for one of the products, probably turbidity_cc_mean or owt_cc_dominant_class.

Providing remote-sensing reflectance is in our opinion out of scope. Our processing chain works on temporal aggregates of derived parameters, like chlorophyll, with the smallest period of monthly averages. While temporal averaging of scalar quantities is correct, it is not appropriate for reflectances, where the average of two observed spectra could result in a spectrum that can never be observed. Complementing the dataset with a surface reflectance product is a valid request, however, it requires a dedicated algorithm, e.g. to select the most representative spectrum. Our research was aiming at an audience that is looking for off-the-shelf water quality information, not an audience that is willing to perform own retrievals and thus we did not develop such an algorithm.

As far as the technical corrections are concerned, we acknowledge very much the reviewer's visual acuity that revealed two faulty cross references. We suggest to restructure the sub sections Conclusions and Limitations as main sections (6. Conclusions, 7. Limitations). We think that the reference and describing sentence on SWBD are sufficient to describe the use in the given context, but are happy to consider specific explanations required by the reviewer.

Best regards, The authors

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