

Interactive comment on “Mapping of satellite Earth observations using moving window block kriging” by J. M. Tadić et al.

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We thank the reviewer for their positive assessment of the manuscript and for their helpful comments, which helped to strengthen the presentation of the approach. In the text below, we include the reviewer's original comments in italics, while our responses are listed in regular font.

Reviewer: *The paper presents in a clear way how contiguous maps of XCO₂ and sun induced fluorescence can be created by the window block kriging algorithm. The results are looking promising and the technical description is clear and easy to follow. What is missing from my point of view is a validation of the created data with ground measurements or state of the art data sets of the given quantities. At least for the*

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XCO₂ example, the authors already refer to the Hammerling (2012a, 2012b) data. However a side by side comparison is missing. If comparison data sets are missing, a cross validation can be used to check, whether the maps are reasonable at the chosen points.

Authors: We agree that a more explicit evaluation of the method is valuable, and have included a new section to this effect in the revised manuscript. An evaluation using independent measurements is not possible, as none represent a fully compatible dataset (i.e. same support in both horizontal and vertical directions). We have therefore used leave-one-out cross-validation to assess the approach.

Reviewer: *“I disagree with the statement that one is not able to characterize the estimation uncertainty in the binning by averaging map creation. The uncertainty of the mean value can be estimated by the (weighted) standard deviation or quantiles of the given sample distribution.”*

Authors: We agree that the uncertainty can in principle be quantified, although uncertainties are seldom reported with binned maps. We have removed this statement.

Interactive comment on Geosci. Model Dev. Discuss., 7, 5381, 2014.