

## ***Interactive comment on “Ocean colour products from geostationary platforms, opportunities with Meteosat Second and Third Generation” by E. J. Kwiatkowska et al.***

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The referee is gratefully acknowledged for providing valuable comments about the user requirement process. Below the authors refer to the individual comments and specify changes that were made to the text.

"This paper provides an overview of the use of geostationary satellite ocean colour data for marine and inland water observation. The paper gives context of the marine policy/management issues where ocean colour data can provide relevant information, particularly for Europe and Africa. It compiles useful key information on sensor capabilities, which is often lacking in the literature. It also provides useful context for

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limitations of polar orbiting versus geostationary sensors. Tables and example figures summarising requirements and sensor capabilities are welcomed.

However, the paper would benefit from greater connection between the determined requirements from user consultation and the sensor/algorithmic capabilities determined. For example, it is stated that FCI will provide additional capability to measure phytoplankton concentrations through additional blue green bands. However, are these bands likely to be useful i.e. what algorithms could be applied and will signal to noise be sufficient? It's stated that "due to these [signal to noise] limitations, SEVIRI can only quantify strong marine optical signals, like high turbidity, and can observe only very high-biomass blooms". Will FCI improve on this? It would be useful to have additional context with regards to how errors from atmospheric correction/adjacency effects will compound these challenges. How do the likely errors in reflectance measurements compare to the underlying sensitivity imparted to the ocean colour signal from the constituents of interest? It would be good here to link to some reviews of algorithms for coastal/inland waters, to give a more complete overview of potential algorithm approaches that could be used. "

Section 3.1 has been updated to include the discussion how the limitations of SEVIRI are addressed in the current development and mitigated where possible. Some background as to the FCI algorithms has also been added in section 3.2.

"The paper discusses African uses for EO data but does not mention much with regards to African initiatives or government context (e.g. in abstract or in section 2.2). I would suggest additional context on growth in remote sensing in response to regional requirements (e.g. through projects such as ESA TIGER, EAMNET, DEVCOCAST) and references to inland and coastal remote sensing studies highlighting these requirements, which may see beneficial use of SEVIRI/FCI data."

The specific references to these projects have been added in section 2.2.

Specific comments:

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"Title - I would suggest reframing the title as a review of the potential of ocean colour products from geostationary satellites."

Title has been updated: Ocean colour opportunities from Meteosat Second and Third Generation geostationary platforms.

"Line 22 - suggest changing 'global ocean' to 'open ocean'."

Done

"Figure 1 - it is unclear what variable is being displayed here as it is not defined in the caption or with a colour scale."

It is the marine remote sensing reflectance in the red band. The explanation has been added to the Figure label.

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Interactive comment on Ocean Sci. Discuss., 12, 3143, 2015.