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Comment

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

**Anonymous Referee #2**

Received and published: 28 January 2016

**General observations** An overview is presented of the present capability of geostationary earth observation for ocean colour, in particular SEVIRI, with an outlook to the upcoming FCI instrument.

Such an analysis is welcome, although the manuscript reads more like an opinion paper than a review. The analysis is placed firmly in the context of user needs and the requirements of the European water framework directive and marine strategy framework directive. Unfortunately, no (re-)analysis is presented of these user-defined requirements and the reader would have to be intimately familiar with the cited documents of individual projects, not generally subject to peer review but generally subject to signifi-

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cant production pressure, to assess how meaningful these user groups and responses have been. At minimum an overview of the nature (targeted audience, geographical spread) and size of the response should be provided.

The manuscript repeatedly claims to present "a review of user requirements for geostationary operational ocean colour products", but I would argue that it is a review of geostationary ocean colour capability and, as such, does not provide significant new insight. In the comments below are some suggested instances where this could be improved by additional discussion or analysis.

In summary, the paper could be more logically presented as either an opinion paper regarding the uptake of geostationary OC sensors, or (with additional analysis) as a review of user requirements, but one focus should preferably be selected and followed throughout. Either way, it would support the logical structure of the paper if capabilities and (current) algorithmic shortcomings of the geostationary approach were addressed before these were mapped to user requirements. This will require some restructuring of the paper.

#### Specific comments

There is some confusion in the first sentences of the abstract between sensors, missions, applications, and services. A case is made that applications are sufficiently matured to allow operational services. Examples are then given as satellite sensors/missions.

P3147 L20 "The spatial resolution of 1 km at nadir is an enhancement on SEVIRI's 3 km resolution and it is suitable for global ocean observations as well as provides meaningful improvement for coastal and lake studies." - 'global' is somewhat inappropriate here, as large swaths of mid- to high-latitude oceans will not be observable. This is only discussed later in the paper.

P3149 L5 "Chlorophyll a concentration could not be obtained from SEVIRI but may be

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supported by MTG FCI instruments." - How would this be supported? Give examples of algorithms for other RGB sensors with similar band configurations, and how have these been used? Will atmospheric correction be adequate?

P3149 L17 "Massive blooms of cyanobacteria" -> "Surface blooms and scums of cyanobacteria"

P3149 L20 "The increased resolution of the FCI instrument will support coverage of additional lakes." - Please provide more detail, what pixel size could be expected and how relevant is this for lake water quality? Will atmospheric correction be adequate for inland applications?

P3150 L9- "The lakes that can be monitored with SEVIRI include Lake Victoria/Nam Lolwe/Nalubaale [...]" - Please provide detail, how is 'monitoring capability' defined, what spatial resolution is considered relevant?

P3152 L4 "Table 3 gives the range of ocean colour products feasible from the SEVIRI instruments which have been requested through user surveys." - The table caption suggests a list of "SEVIRI ocean colour products requested by users" rather than the authors' view of the feasibility of SEVIRI products to meet user requests. - It would provide useful context to also list user requests that cannot be addressed with SEVIRI, but can be met with other OC sensors, or not at all.

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

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