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Interactive comment on "Vertical distribution of chlorophyll <i>a</i> concentration and phytoplankton community composition from in situ fluorescence profiles: a first database for the global ocean" *by* R. Sauzède et al.

Anonymous Referee #1

Received and published: 5 June 2015

The manuscript presents a new approach to obtain chlorophyll a global distribution, adding with a third dimension: depth. The Chla fluorescence database represents a considerable task, which will certainly be very useful for future studies on global phytoplankton distribution and climate studies. I consider that the length of the article appropriate, that the article is well structured and that figures and tables correct and of high quality This work is strongly linked to a previous paper of the same team (Sauzede et al 2015, JGR). Some crucial information, namely regarding the characterization of FLAVOR is missing in the present article. I would suggest adding adding this informa-

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tion. As well as a brief explanation how values of size-based community composition were obtained. Authors discuss thoroughly the fact that Chla fluorescence is not Chla, but just a proxy for Chla. However, a key issue is the strong dependence of Chla fluorescence on light environment. Authors do not specify if any correction/modeling was made to correct this effect. Or at least, they should mention this issue in Discussion. In conclusion, I rate this manuscript as Excellent, I think it will be very useful for other scientists, so it should be published in ESSD, after dealing with this important question.

Interactive comment on Earth Syst. Sci. Data Discuss., 8, 365, 2015.

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