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## ***Interactive comment on “Optical tools for ocean monitoring and research” by C. Moore et al.***

**C. Moore et al.**

Received and published: 23 October 2009

We thank the reviewer for his positive comments.

A sub-set of suggested additional references have now been added and referred to in the text.

Regarding broader referencing on bio-fouling: This is a good suggestion, and while to do it justice would significantly expand the manuscript beyond the intended audience and scope, some additional information, and a reference to this paper have been added.

The reviewer suggested a comment to the effect that the authors have attempted to write the review showing no partiality toward a specific manufacturer: This has been done.

The reviewer suggested better delineation and definition of IOP and AOP: This has

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been done

The reviewer suggested emphasizing the limitation of biofouling for measurements of IOPs and AOPs as well as several other optical methodologies discussed in the paper: A summary description of the problem has now been included, and a reference provided to the nice summary by Lehaitre et al. (2008).

The reviewer suggested Hyperspectral needs to be defined: There is no universally agreed upon absolute definition of hyperspectral. On page 7 in the text, the following was stated in the original which should suffice: 8220;8230;a large number of narrow wavebands, typically hundreds8230;8221;. A reference has now been added to a paper that treats this directly for a general audience as requested: Chang, G., K. Mahoney, A. Briggs-Whitmore, D. Kohler, C. Mobley, M. Lewis, M. Moline, E. Boss, M. Kim, W. Philpot, and T. Dickey. 2004. The new age of hyperspectral oceanography. *Oceanography*, 17: 16-23.

Reviewer commented that an upcoming issue on ALPS that includes several papers on various new platforms (gliders, AUVs, and more) that would be a nice citation also [see Dickey, T.D., E.C. Itsweire, M. Moline, and M.J. Perry, Introduction to the Special Limnology and Oceanography Volume on Autonomous and Lagrangian Platforms and Sensors (ALPS), 2008, *Limnology and Oceanography*: This paper has now been referenced/cited.

The reviewer suggested that in the 2nd paragraph on p. 8, it would be useful to discuss gelbstoff, CDOM, CDM, etc. briefly and to give a review citation: This has been added.

The reviewer suggested it might be useful to add a short paragraph discussing the merits of stable platforms like FLIP, BRUSSOLE, MOBY and YBOM: A reference to FLIP and BOUSSOLE has now been added in this context. MOBY is a standard mooring design, and not particularly more stable than more standard moorings.

The reviewer suggested citing some HABWATCH papers. On p. 14, under b. Spec-

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tral Fluorometers, Babin8217;s Chapter 6 would be a good citation. Similarly Marlon Lewis8217; chapter on AOPs and Roeseler and Boss8217; Chapter 5 on IOPs, and Sosik8217;s Chapter 8. :These citations have now all been added.

The reviewer suggested reference to the natural fluorescence sensor area (i.e., Kiefer and Chamberlin work). :A short paragraph, and reference to recent papers have now been added in the AOP section.

The reviewer suggested in Section 4that a more recent review paper on flow cytometry with ocean applications might be useful. I suspect Heidi or Lisa Campbell has one of her own or know of one? Some discussion on the size range of particles that can be effectively measured with flow cytometry would be useful. :Reference to a review by Sosik et al. (in press) has been added. Information about size range has been added to paragraph 5 of Section 4.

The reviewer suggested that a useful citation for MEMS at the bottom of p. 28 might be the following: Tokar, J.M. and T.D. Dickey, 2000, Chemical sensor technology - Current and future applications, Chemical Sensors in Oceanography, Gordon and Breach Scientific Publishers, Amsterdam, 303-329. There may be something more recent or appropriate?: Authors chose keep text, as it is, since we want to point out the potential in that section, and not look toward applications done in the past.

The authors wish to thank the reviewer for his insightful efforts and positive contribution to the outcome of this paper.

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Interactive comment on Ocean Sci. Discuss., 5, 659, 2008.

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