Biogeosciences Discuss., 10, C1190–C1191, 2013
www.biogeosciences-discuss.net/10/C1190/2013/

Biogeosciences Discussions

Interactive comment on "Ocean Colour remote sensing in the Southern Laptev Sea: evaluation and applications" *by* B. Heim et al.

Anonymous Referee #2

Received and published: 23 April 2013

The authors present results from comparing ship measurements from the two expeditions in August and September 2010 to the southern Lapdev Sea with MERIS satellite-derived chlorophyll, suspended material and CDOM estimates. In common with other studies in the Arctic, they find that satellite estimates of chlorophyll are high by about a factor 10. Estimates of TSM seem more reasonable. CDOM does not seem to be evaluated.

The authors also discuss hydrodynamical patterns, seen in satellite images, but seem to come to few clear conclusions.

The paper needs major revision. The English is poor, making it hard to understand the paper. The paper badly needs editing for language and grammar.

The paper needs to be made much clearer. I would expect to see plots in the paper comparing satellite estimates and surface measurements of the three parameters, with a clear indication of time differences imposed by cloud and other factors. Figures 4a and 4b do not seem useful. The conclusions on quantitative estimates of water constituents and on hydrodynamical patterns could be separated.

In several places, the paper summarizes results from other studies, tending to make this partly a review paper. The authors should focus on their results, commenting only on agreements or disagreements with others.

Figure 1b plots positions from an additional expedition in 2008. It is not clear how this fits in the paper.

We need to know at what depths water samples were collected. Section 4.2 states that in-situ data are averaged over the top 2 m of the water column. Does this mean that water samples were somehow collected to be averages over this depth, or does it mean that samples were collected at several depths, and the average value for the top 2 m was computed.

The authors note that high SPM occurs at all salinities due to resuspension as well as river discharge. It is not clear whether they observe low SPM at all salinities, implying some fresh water sources with low SPM. I suspect low SPM only occurs in offshore water.

Interactive comment on Biogeosciences Discuss., 10, 3849, 2013.