

Interactive
Comment

Interactive comment on “Suspended particles in the Canada Basin from optical and bottle data, 2003–2008” by J. M. Jackson et al.

J. M. Jackson et al.

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We are grateful to both reviewers for their constructive comments on our manuscript entitled “Suspended particles in the Canada Basin from optical and bottle data, 2003–08”. We think that their helpful comments have strengthened our manuscript. Below are our specific responses to each reviewer’s comments.

Reviewer #1:

This reviewer suggested that the presentation should be more reader-friendly. We agreed and will closely read and re-word the paper.

For section 2, we were asked to give more specific information on our experimental methods. We will include the manufacturer of the GF75 filters, the excitation/ emission

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wavelengths used in fluorescence, and will explain the meaning of DMQ

For section 3.1 – 3.5, the reviewer had the following comments:

- There was a concern about why we chose to display the given depth profiles. We will clarify this in captions of Figures 2-6 as, for example, 'The vertical axis is the square root of depth to emphasize the near-surface features. Only the upper 900 m were shown because there were no attenuation features or bottle samples below this depth'
- The reviewer could not see all of the attenuation features in Figures 2-6 that we discussed in sections 3.1 – 3.5. We will change the horizontal axes on Figure 4 and Figure 6 so the attenuation features were more apparent. For example, we will change the attenuation range on Figure 4 from 0.38 – 1.0 m⁻¹ to 0.38 – 0.7 m⁻¹.
- The reviewer wanted more information on how frequently the attenuation features were observed. Since reviewer #2 had concerns about our interannual comparison of POC (section 5 in submitted paper), we would like to change the structure of the paper so that we do an interannual comparison of transmissometer and fluorometer data for all regions from 2003-08 when there is sufficient data. This will become section 4 in the new version. We will make contour plots of attenuation to better identify regions of high attenuation and hope to find several interesting results.

Reviewer #2:

The main concerns of this reviewer centered on the interannual comparison of POC estimated from attenuation in the Northwind Ridge slope, interior of the Canada Basin and eastern shelf of the Canada Basin region. As discussed above, we would like to replace Section 5 with one that emphasizes an interannual comparison of attenuation and fluorescence data in all regions so that the frequency and strength of the six attenuation features could be discussed. This will become Section 4 and the comparison between TSS-attenuation and POC-attenuation data will become Section 5. We agree that consistent TSS-attenuation and POC-attenuation relationships were difficult to find

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in our study region and will try to strengthen this point in our writing. However, we do think that there is value in estimating POC concentrations from attenuation data so would like to keep Table 4 in the paper but also will discuss the accuracy of the POC estimates in section 5.

Reviewer #2 had several minor, mostly grammatical, comments. We agreed with all of these and will make the appropriate changes.

Interactive comment on Ocean Sci. Discuss., 7, 1017, 2010.

OSD

7, C372–C374, 2010

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