Second review of ‘Patterns of suspended particulate matter across the continental margin in the Canadian Beaufort Sea during summer’ by Ehn, Reynolds, Stramski, Doxaran, Lansard and Babin

Many improvements have been made to this manuscript. It is now much easier to read, has a more logical structure, and the important results are clearer. There were still a few places where I found the manuscript confusing. In addition, I questioned why 2007 were data removed from the revised manuscript? I also have some minor suggestions, listed below:

- Page 1, Line 18 – Put (Fig. 1) after Mackenzie Shelf
- Figure 1:
  o Mackenzie Trough and Kugmallit Valley should be labeled
  o I still can’t tell the different between the purple and red stars
  o Please make it clear in the caption that the small black dots are stations sampled by the barge
- Page 2, line 23 – Where is the proof that the material reaching the Canada Basin deep ocean is thousands of years old?
- Page 3, lines 3 to 11 – I find these sentences difficult to read and confusing. I suggest that the authors tighten up the writing so that the main points are clearer.
- Page 6, lines 23 to 24 – Why are the end members used here for Pacific Summer Water different than those used by Yamamoto-Kawai et al. (2008)?
- Section 2.6 – Please state in this section the depth of the various instruments on the moorings.
- Figure 2 – I think that this figure would be much easier to read if the stations were added to it. I find the varying bathymetry disorienting and I think it would be easier to read if the stations were on the figures as stable objects.
- Figure 3:
  o I can’t read the colorbars in a) and d)
  o I suggest that the range for all colorbars is the same (-9 to 9 cm/s)
- Page 8, lines 11 to 15 – Please rewrite to make the key points clearer. Has this eastward current been observed before in this area?
- Page 8, lines 25 to 26 – This sentence doesn’t make sense to me. Please clarify.
- Page 9, lines 2 to 3 – Water at 13 m is not surface water. Please clarify.
- Page 9, lines 15 to 16 – Here POC/SPM ratios are reported in fractions but they are reported in percentage in Figure 5. I suggest that these units are consistent.
- Page 9, lines 16 to 18 – Please add (Fig. 5a) at the end of this sentence.
- Page 9, line 34 – Based on the caption, I don’t think that Fig. 5c shows subsurface water, just surface samples
- Section 3.4:
  o Why weren’t sections of POC shown?
  o Why was 2007 data excluded from the revised manuscript?
- Page 12, line 17 – I suggest adding ‘At the surface” before ‘SPM decreased...’
- Page 13, lines 10 to 13 – I find this sentence confusing. I don't see any data describing shelf circulation in this manuscript.
- Section 3.4.2
  - I suggest that this section is rewritten so that it has more clarity. I found it difficult to follow and to understand the key points of this section
- Page 13, line 19 – I don't think ‘inversions’ is the right word here. Perhaps ‘features’ is a better word?
- Page 13, line 23 – Which station has a 1000 m thick BNL?
- Page 13, line 26 – At what depth was the BNL at station CB-27?
- Page 13, line 31 – At what depth was the INL at stations CB23, CB27, and CB21?
- Page 15, lines 21 to 22 – Please add a reference to this sentence.
- Figure 12
  - I find figures 12a and 12b difficult to read
    - The labels are challenging (e.g. does D08 stand for December 08?)
    - I can’t see the inset line of axes values on Figure 12b
    - I suggest that for CASES, MALINA, and CFL that data from 1-2 months before the cruises are shown. I don’t think that a full year of data are needed here
  - Figure 12 c – there is no colorbar to indicate current direction – please add
- Page 15, line 31 – I think that there are westerly winds from October and December through March?
- Pages 15, lines 30 to 34 – I find these sentences confusing and contradictory. Please clarify.
- Page 16, lines 16 to 17 – I can’t see cross-shelf currents in figure 12a. They’re undoubtedly there but there is not enough information in the caption or figure for me to tell when currents are cross-shelf