

Interactive comment on “Transformation of organic carbon, trace element, and organo-mineral colloids in the mixing zone of the largest European Arctic river” by O. S. Pokrovsky et al.

Anonymous Referee #2

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General comments

This is an important contribution, because there are few studies discussing the fate of colloidal material during estuarine mixing, especially in the Arctic. I suggest that this paper is published after minor revision.

I think the title is too long. Rephrase. Something like? "Fate of colloids during estuarine mixing in the Arctic"

The text must be reduced (see specific comments below).

It is very difficult to read fig 4-fig 8. Perhaps it would be more clear if the symbols were

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connected with lines. It is not possible to follow each sampling occasion.

The authors underline the need to sample during a whole year. Spring flood is the major event (usually 50-70 % of the yearly discharge) but the authors have no measurements during this period. It would be valuable if the authors, briefly, could discuss the problems with the lack of spring flood data (implications for any of the conclusions?)

Specific comments

Line 22 page 1709 As a general scheme, delete Line 11 page 1710 rephrase Line 19 page 1671 hydrological year (is this correct to say?) Line 5 page 1712 remove line 5-7 Page 1712, 1713 1714, 1715 1716, The authors can remove much of this text. It is possible to use references to explain the methods. Line 14- 22 page 1718 Is this text necessary? Line 4 page 1720 DOC is not a colloid, change to OC Line 8 page 1723 ... amount of oxyanions? There are several elements present as oxyanions in the water but in the colloidal phase? Line 8 page 1725 The text on line 8 to 15 can be removed. Start with The Mn concentration ... Line 24 page 1725 to line 17 page 1726. I think this paragraph can be removed, Line 20-22 page 1726 Can be removed. Page 1730 The whole section 4.3 can be condensed and rewritten.

Interactive comment on Ocean Sci. Discuss., 10, 1707, 2013.

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