Biogeosciences Discuss.,
https://doi.org/10.5194/bg-2019-57-RC2, 2019

Biogeosciences Discussions
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EGU

Interactive comment on "Collection of large benthic invertebrates in sediment traps in the Amundsen Sea, Antarctica" *by* Minkyoung Kim et al.

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Received and published: 6 May 2019

This paper reports that benthic invertebrates with no swimming ability were collected in sediment traps positioned well above the sea floor. The authors suggest that anchor sea ice formation, transport, and following release is the possible mechanism to explain the occurrence, which is reasonable to me. They also suggest that this kind of transport could be an important carbon source for the Antarctic food web, and a means of dispersal for benthic invertebrates.

Overall, this paper is well-written, and the data are valuable to the community. I suggest for publication after some very minor changes.

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Discussion paper

Specific comments

1. A short introduction about anchor sea ice will be beneficial for broad readers.

2. I do not agree to use the low average current speeds as an evidence for weak current. Between June and September, the current speeds at K3 were much higher than the average current speed (Fig. 3c of Kim et al., 2019 J. Mar. Syst.). This is also the time when most worms were collected (Fig. 2c). You should discuss possible connections between current speed and worm collection.

3. What is the bathymetry of the studied area? How far are the sampling sites from the nearest continent? Is it possible that the worms were from shallow water sediment and transported by current to the traps. As also been suggested in Kim et al., (2019), an average current speed of 10 cm/s and sinking speeds between 10-100 m/d together could enable traps to collect particles originated tens of kilometers away from the trap site.

4. Were the traps tilted? Did you have a tilt sensor on the trap? Even if the current speeds 2 m below the traps were not high, the whole mooring system could also be tilted. Do sediment trap positions help explain the reported collection?

5. p.3 l.8 '...from October 2016 to March 2017' is not consistent to what is shown in Fig. 2a.

Best of luck!
Wei-Lei Wang

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