

Interactive comment on “Arctic Ocean circulation and variability – advection and external forcing encounter constraints and local processes” by B. Rudels

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First I want to thank the reviewer for the comments and for bringing up the importance of the wind for the Arctic Ocean circulation and water mass distribution.

General & 1) I am aware and can understand the reviewer's concern about the scant attention given to the wind driven aspects of the Arctic Ocean circulation. The main reason is that this is not a review article of the Arctic Ocean oceanography in the proper sense. The article is an invited, written version of my Nansen Medal lecture in which I was expected to present part of my own work related to the medal motivation. Since I have not made any contribution to our understanding of the wind driven circulation,

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it was naturally to leave it out of the lecture and the article. I believe that I cannot change this basic concept, but I shall try to bring in the effects arising from the wind driven circulation, how they could modify the results presented in the article and refer to the relevant works for further information. The same holds for the seeming neglect of the Amerasian Basin and especially the Canada Basin. I have not worked there myself. I shall try to rectify this with references to other studies when appropriate. I shall also see if additional references are needed for the part addressing the vertical heat transfer.

2) The historical part of the introduction has not been pointed out as being too long by the other reviewers and I will therefore leave it as it is.

3) The advice to improve the figures will be followed.

Interactive comment on Ocean Sci. Discuss., 8, 2313, 2011.