

## ***Interactive comment on* “Structure and forcing of the overflow at the Storfjorden sill and its connection to the Arctic coastal polynya in Storfjorden” by F. Geyer et al.**

### **Anonymous Referee #1**

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#### General comments

The paper provides a clear and concise discussion around the behavior of the overflow of brine-enriched shelf water (BSW) across the sill from Storfjorden, Svalbard. The discussion is based on a one year primitive equation model run, including a dynamic and thermodynamic sea ice module, and comparisons with direct current measurements of the overflow. The current measurements are published by two of the authors in a previous paper, and the present paper closely follows and tests the methods used in the previous paper. I think the paper adds to the understanding of how wind can influence the days to weeks variations in the overflow. Moreover it strengthens the re-

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liability of the simplifying assumptions commonly made in previous estimations of the BSW overflow from Storfjorden.

#### Specific comments

I have only one small comment. Station 1 is mentioned in line 29, page 28, in connection with Figure 11, but not shown in the figure. The sentence can be excluded, and position 1 removed from Figure 2.

#### Technical corrections

Line 18 on page 28. I believe it should be 11b instead of 11c.

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Interactive comment on Ocean Sci. Discuss., 7, 17, 2010.

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