

Interactive comment on “Shelf–Basin interaction along the Laptev — East Siberian Seas” by Leif G. Anderson et al.

Anonymous Referee #1

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This paper uses a comprehensive hydrographic data set to assess along-slope variations in water mass properties and likely processes occurring along the ESS shelf and slope. I first applaud the authors for the development of such a comprehensive data set from a very remote and difficult portion (access-wise) of the Arctic Ocean. Second, I thought that the presentation of the various data sets was concise and the figures of high quality.

My only concern is with the estimate made on page 9 lines 25 - 30. A shelf water contribution with salinity of 36 would imply very large productions of ice in winter from a shelf region that has very low salinities (in general). Is this possible? I also wonder if the ESS has silicate concentrations of 25 $\mu\text{mol/l}$. Perhaps the silicate concentrations would increase within a dense plume spreading offshore and in intimate contact with the bottom sediments? I encourage the authors to elaborate a little on both of these

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points.

minor wording issues: p.5 line 21 omit "over" after "spans" p.6 line 10 remove "in" before station. p. 8 line 8. Remove "down" after water deeper.

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