

Interactive comment on “A stable Faroe Bank Channel overflow 1995–2015” by Bogi Hansen et al.

Anonymous Referee #1

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This manuscript shows, based on in situ observations, that the dense overflow through the Faroe Bank Channel has not increased in the period between 1995 and 2015. Although the scientific contribution of this work is not huge as it is a minor extension of previous work, the paper is extremely well written, well organized, highly relevant and with clear figures, and shows observations that are of interest to the community, and I therefore recommend that this paper should be accepted for publication.

There are really only two small issues, in my opinion, that the authors should clarify or justify. First, in Section 3.3/Figures 6 and 7, the salinity is discussed as a function of potential temperature. I understand that the observations are mainly for temperature, but a far more obvious way to look at this would be to plot potential density (which mainly depends on salinity in this region of the T/S space) against potential temperature. In general, throughout the manuscript with a very few exceptions, the authors attempt to

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relate temperature changes to density changes, which just does not make much sense given the nonlinearities in the equation of state. When isotherms and isopycnals are equated (as on p. 13) without any proper justification, the wrong conclusion could be drawn.

Second, the factor of 5-10 on p. 9 confused me. With a 5-10% contribution to the mixture I would expect that changes in the temperature/salinity would be reduced by a factor of 10-20. How is the factor of 5-10 derived?

Textual: - There are quite a few commas in the text where there should be none. - p. 4, l. 1: profiles - p. 4, l. 8: an evaluation cannot draw a conclusion, but it can lead to a conclusion - p. 10, l. 8: close to the bottom

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