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Interactive comment on "Coupling of eastern and western subpolar North Atlantic: salt transport in the Irminger Current" *by* A. Born et al.

M. Hecht (Editor)

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Dear Authors,

as you well know, the two reviews were widely disparate. Referee 1 recommends rejections in its present form but does nevertheless believe that it may yet be publishable, if a number of points are thoroughly addressed.

I do agree that you should more fully acknowledge the limitations of the models in the subpolar gyre (particularly when focussing on variability in models that must be intrinsically weak in that respect, with consequences particularly for the NW Atlantic/Labrador Sea). There's an additional body of literature, that Referee 1 points you towards, addressing the role of salinity in the ocean itself, as distinct from what may happen in

models. The Referee also points out that subsurface state is critical, which I believe to be a valid point.

In further correspondence with Referee 2 (who had a highly favorable opinion of the paper), they suggest that you "could examine the background density stratification and how much salinity anomaly is needed to overturn the water column in various parts of the subpolar gyre and put their salt transport argument into context of density anomaly and convection."

I realize that it will not be easy to satisfy the more significant demands of Referee 1, but it will be necessary to do so, in large part, if the paper is to be accepted for publication. I wish you the best in doing so.

Yours sincerely, –Matthew Hecht

Interactive comment on Ocean Sci. Discuss., 10, 555, 2013.