

Interactive comment on “Seasonal and regional variations of sinking in the subpolar North Atlantic from a high-resolution ocean model” by Juan-Manuel Sayol et al.

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Dear authors,

I have a question regarding the particular region of Flemish Cap, where you report a relatively important eddy-driven sinking.

I wonder how the latter reconciles with the key ingredient for vertical sinking: a positive along-stream density gradient supporting an in-shore geostrophic flow in the upper layer. Through mass conservation this drives downwelling along the slope, as the authors well explained in their introduction.

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This is not the case of the boundary current encircling Flemish Cap, which is warming as it flows downstream due to exchanges with the warmer North Atlantic Current, so that the sign of the along-stream density gradient would rather suggest upwelling there.

Could the authors comment on this ?

Many thanks in advance.

A very interested reader.

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C2