

## Author's response to the editor

Kanarik, H., Tuomi, L., Alenius, P., Miettunen, E., Johansson, M., Roine, T., Westerlund, A., and Kahma, K. K.: Currents and their Drivers in the Archipelago Sea: Insights from ADCP measurements, EGU sphere [preprint], <https://doi.org/10.5194/egusphere-2025-1101>, 2025.

### Public justification (visible to the public if the article is accepted and published):

Dear Dr. Kanarik and co-authors,

Thank you for the revised version of your manuscript. I am satisfied with your responses to the two reviews by the referees which I think were quite useful. Your manuscript is now accepted for publication in Ocean Science. Below I added a final list with technical comments. Please take this into account when submitting the final files of your manuscript.

Thank you for the acceptance of our manuscript and detailed corrections. We have provided answers to your points in below with blue colour.

All through the manuscript the authors write magnitude(s) when the current velocity or current speed is meant. Please correct this.

In our manuscript we do not use the term magnitude to refer to any variable other than the current speed, and so we do not see a risk of misunderstanding here. Hence, we do not see a reason to replace the term magnitude with the term current speed. We only use the term velocity in a few places, where we intend to refer to both the magnitude and direction of the current.

The velocity should be shown with a space, like cm s<sup>-1</sup>. Please correct this throughout the manuscript. Corrected

L65 cm s<sup>-1</sup> (insert space between cm and s) Corrected

L66 more recent, instead of newer Corrected

L67 “they have been largely unrepresented and unpublished before this paper” I suggest: they have not been public nor published before. Corrected, thank you for good suggestion

L70 highly complicated, instead of very complicated Corrected

L77 m s<sup>-1</sup> (insert space between m and s) Corrected

L90 delete: In this paper, Corrected

L90 We have data, instead of We had data Corrected

Figure 1: Optionally, you may add the names of the different countries into the map. What are the grey lines near the top and bottom of the figure?

We choose not to include the names of the countries into the map, because it would require drawing also the borders. We think that the names of the different sea basins are enough to help readers to locate our study area.

The grey lines indicate the borders of different sea basins (named in the smaller map). This is now included in the figure caption.

Caption of Table 1: (last line): ... type of the region (SEE Section 3) where the measurementS were conducted. [Corrected](#)

L95 It is not clear what is meant with “ensembles”. How is that different from just data? Please define ensembles. [We changed this to data as using term ensemble served no important distinction in here.](#)

L96 data were marked (data is plural) [Corrected](#)

L96 NaN (format) [Corrected](#)

L110 scatterers (typo) [Corrected](#)

L119 from 6 February to 22 March (format) [Corrected](#)

L154 “Because of this,” instead of thus [Corrected](#)

L157 13 September 2006 and in Isokari AWS from 2 May 2006 (date format) [Corrected](#)

L165 publicly, instead of openly [Corrected](#)

L180-183 Is there any way that these regions can be shown in the figure? [We coloured the names in different regions to Fig 1, to hopefully better show the groups of regions.](#)

L187 Storms, instead of Wind storms [Corrected](#)

L192 I suggest: “3.1 Currents near the southern edge of the Archipelago Sea” or “3.1 Currents at the southern edge of the Archipelago Sea” [Changed to “Currents near the southern edge of the Archipelago Sea”](#)

L195 The mean current magnitudes (insert: current) [Corrected](#)

L196 The maximum current velocities ... (not: magnitudes) [Corrected](#)

L196 cm s<sup>-1</sup> (space) [Corrected](#)

Figure 4: Caption, I suggest something like (if correct): Wind directions in different seasons in Isokari (a-d) and Utö winds (e-h) [Changed to “Winds in different seasons in Isokari \(a-d\) and Utö winds \(e-h\).”](#)

L200 in the layer closest to the surface, instead of: in the surfacmost layer [Corrected](#)

L275 northeastern AS (typo) [Corrected](#)

L281 “that cover all seasons”, instead of: that range through all seasons [Corrected](#)

L313 Do you mean? : During time periods when a seasonal thermocline was present ...  
(same in line 316) [Corrected](#)

L524-528 This paragraph sounds very much like a conclusion and I suggest it should also appear there [Thank you for noticing this. We moved these lines to the end of the conclusions and moved the notation in the beginning of this paragraph to the first paragraph of the conclusions.](#)

L530 delete: In this paper [Deleted](#)

L571 Please translate the title of the publication and add it in brackets. Please also do that for some other references [Corrected](#)

With best wishes

Mario Hoppema