

***Interactive comment on “Insignificant enhancement of export flux in the highly productive Subtropical Front, east of New Zealand: a high resolution study of particle export fluxes based on  $^{234}\text{Th}$ : $^{238}\text{U}$  disequilibria” by K. Zhou et al.***

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This work presents numerous data of good quality allowing an estimate of the POC export flux within different water masses across the Chatham rise, east of New Zealand. Despite a significant natural fertilization of the area, the results evidence a low export. The paper is clearly written, well argued and illustrated and surely deserves to be published in *BioScience*, after minor corrections listed below.

- Because of the paradoxical low export in this area, I suggest to the authors to change

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the title in order to underline the contrast between the natural fertilization and the weak export.

- I would explicitly represent the Chatham rise on the figure, and improve the symbols representing the station within their different contexts.

- In the abstract, please specify what "low" and "high" salinity means.

- methodology: Did the authors participate to any analytical intercalibration as the recent Geotraces one? What is the reproducibility of their data? How were the error bars determined? Should be more explicit.

- Figures: there are many figures and all are not always explicit. For example, in order to visualize the Th and POC export fluxes in the different contexts, I prefer to see histograms instead of interpolated coloured maps...

- Are there other ancillary parameters as dissolved Si in order to assess the argument on the activities of diatoms in the area, at this season?

- mesozooplanktonic activity is considered as the most likely actor limiting the export here; what about macro-nutrient (ex: Si) limitation?

- the authors should check thoroughly the references (or change of software!) because there are many small errors in the reference list.

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