Earth Syst. Sci. Data Discuss.,
https://doi.org/10.5194/essd-2018-104-RC3, 2018

Open Access Earth System Science Data Discussions

Interactive comment on "The AlborEX dataset: sampling of submesoscale features in the Alboran Sea" *by* Charles Troupin et al.

Anonymous Referee #3

Received and published: 2 October 2018

The manuscript describes a dataset collected during the AlborEX experiment in the Western Mediterranean in May 2014. The experiment aimed at studying submesoscale dynamics and its impacts on phytoplankton. Several platforms have been used: ship-borne measurements (CTD and ADCP), autonomous profiling platforms (3 floats, 2 gliders), and surface drifters.

The manuscript is illustrated by useful figures of good quality. The dataset consists in a nice combination of platforms collecting data across a submesoscale front. This is dataset led to several publications. I still have major concerns regarding its publication in the present form.

Thus, I recommend its publication Earth System Science Data after major revisions considering my following comments.

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Discussion paper

Major comments:

- What are the instruments specifications? A list of the parameters measured by each platform along with the corresponding sensor name must be provided for the CTD, glider and profiling floats.

- Were they any water sample taken during the cruise in order to calibrate the CTD, or chlorophyll-a fluorescence? More than four years after the experiment, I expect this calibration to be done. These are mentioned p16 l22. Along the same lines, a list of future QC to be applied is advocated p15. I would be reluctant to use such a data set. My conception of publishing a data set in such a journal is that final QC should be performed beforehand, and future users should not worry about it.

- Section 2.2.2: It is never specified that the gliders were set to surface every 3 (deep) and 10 (shallow) dives. Estimates of depth-average currents by gliders between consecutive surfacing should be mentioned. Those are essential to infer geostrophic velocities. The sampling strategy unfortunately divides by 3 and 10 the number of current estimations. What was the aim of this sampling strategy? Moreover, when the glider does not spend equally distributed time at each depth level, depth-average currents can not be treated as such anymore. How does the QC deal with this issue? To my mind, this is a real weakness of the glider dataset, especially in an experiment dedicated to submesoscale. I discovered this point by looking at the glider data. Readers should be made aware of this in the manuscript.

- Section 3.3.2: How in-house QC differ from international standard for profiling floats and gliders?

Specific comments:

p2 l32 "thanks due" p6 l2: Specify the glider type and sensors. p10 l1: wrong degree symbol, please also correct other instances.

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