

Interactive comment on “MARES Project: Hydrographic data of the San Jorge Gulf from R/V Coriolis II cruise in 2014” by Juan Cruz Carbajal et al.

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Dear Anonymous Referee #2. We are very gratefully for your useful comments about our manuscript.

The initial organization of the manuscript was based on two different and close surveys, 1) a fixed hydrographic station and 2) a survey in the frontal zone, but it's true that a new dataset (CTD cast) is introduced as the paper unfolds. We followed your suggestion and we have made some modifications in the organization (see General Comment number 4). We agree that the cleaning and processing of the data demand a lot of work especially knowing that the cruise involved different working groups. We believe

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that the data set from this hydrographic leg will contribute to understanding the natural ecosystem functioning of the San Jorge Gulf since there is a lack of information on the physical-biological coupling at high-frequency scales, key for ecological processes and fishery resources. Furthermore, as part of the Patagonian Shelf, the seasonal interaction between both gulf and inner shelf water masses enhances the productivity of one of the Large Marine Ecosystems of the globe (Sherman, K., & Adams, S. (Eds.). (2010). Sustainable development of the World's large marine ecosystems during climate change: a commemorative volume to advance sustainable development on the occasion of the presentation of the 2010 Göteborg Award. International Union for Conservation of Nature and Natural Resources). In the following, we provide the answers to all your comments.

GENERAL COMMENTS 1. The study was based on a program that began in Feb 2014 (as we have mentioned in the abstract) and then continued in the spring of 2016 and 2017 in the framework of a national project. In those two last surveys, hydrographic observations were collected in the frontal region but the towed undulating vehicle was not available, as we mentioned in Section 2, so the article focuses on the originality of the data set from the Scanfish II in a region with high biological impact. The methods and materials that support the provided data set are described in detail in the manuscript (standard SBE calibration/processing, CODAS processing system for ADCP and strict procedures for Water Samples analysis) so potential users have standard data quality ('state of the art') for future work. In addition, a complete metadata explaining the precision of each instrument and the data quality flags were presented at the NOAA. The work of this manuscript was designed to group the main dataset of the leg 2 and to describe in detail the procedures to reach a high-quality standard as the ESSD intends.

2. In the introduction, we have described the importance of studying the frontal variability and the potential impacts in the biological community (several papers are cited). At present, we are working with the data set of the fixed station and we assume that physical processes that occur in frontal region (as nutrients supply to the euphotic zone,

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Carbajal et al., 2018) are also visible in the fixed station. Therefore, it is expected that the mechanisms could be similar to that observed in the southern tidal front, as we have mentioned in Section 2.2.

3. Regarding to this point, we have made some changes in the data of the CTD vertical profiles and the underway data format. The CTD vertical profiles data were averaged at 1 dbar pressure intervals and reported only the downcast and we have reprocessed the underway data, as we explained in Section 6. We are also going to upload this new version of the data set at NODC in CSV format.

4. We have taken your suggestion and have modified the structure of the manuscript. In Section 2 we finally present the field measurements and the instruments for the two surveys (tidal front and fixed station) and we mention the complementary observations (underway, ADCP) as a subsection. Regarding the water samples, we have provided meticulous detail since we used them for the calibration of the ancillary sensors of the CTD vertical profiles in order to reflect the 'state of the art' as part of the criteria quality of ESSD. Potential users of the dataset will know in detail how the ancillary sensors were calibrated. Section 8 was added as an initial suggestion from the Topical Editor of ESSD.

SPECIFIC COMMENTS - We included the following sentences (p.3 L.10) to explain the procedure: Nevertheless, it was possible to link both signals to get the missing data in a post-processing using complete data (date, time and position) of Scanfish CTD and the sampling intervals of the two sensors employed simultaneously to link the missing data to the corresponding record of the FLNTU data.

- We have deleted this sentence.

- No, the resolution of the SBE 49FastCAT temperature sensor is $0.0001\text{ }^{\circ}\text{C} < 0.00052\text{ }^{\circ}\text{C}$ (offset value correction).

- We have presented as examples the residual corrections before and after calibration

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of SBE43 oxygen sensor and underway sensors in order to show how important it is to produce calibrated data.

Please also note the supplement to this comment:

<https://www.earth-syst-sci-data-discuss.net/essd-2018-75/essd-2018-75-AC2-supplement.pdf>

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2018-75>, 2018.

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