

## **Deep water hydrodynamic observations of two moorings sites on the continental slope of the Southern Adriatic Sea (Mediterranean Sea)**

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Dear Author and co-authors,

The answers to reviewers have been written quickly and in poor English (i.e. A7, A9, ...) as the text added to the final version of the manuscript, which is not acceptable yet for publication. Even if the reviewers suggestion is to accept as is, I strongly suggest to revise in depth section 2.3 about Quality Control documenting each QC step (some figure could help) and relative quality flag as required by our journal. The data are visualized with filters that do not show the actual data values that a dataset paper should present (asked before opening the discussion), could you please provide an example of the original time series and of the Quality Control procedure (before and after) for CTD and ADCP?

It follows a list of issues that have not been addressed properly.

Lines 60-69: please check the text

Table 1: please improve both the table (i.e. the lines of the two sites do not correspond, the appearance is terrible) and the caption to be self-explanatory. What is S/N?

Table 2: the calibration dates refer to time periods, i.e. *09/2013 – 04/2014* it means from September 2013 to April 2014? Would it be possible to join table 1 and 2 and provide a complete overview of the mooring sites maintenance activities? Again the caption should be self-explanatory, please improve.

Q4 about accuracy has not been addressed properly. You talk about sensors accuracy but you then write resolution: “*Data of water conductivity was measured by sensor, with a resolution of 0.00005 S/m; the water temperature by means of a thermometer, with resolution of 0.0001 °C; the water pressure by means a pressure strain gauge sensor with an accuracy of 0.002% of full-scale range.*” Could you please include sensor accuracy information?

Line 131: I would rephrase “*The metadata information includes Global....*”

Line 134: please specify or add a reference here about the conventions and keywords vocabulary used.

Lines 134-136: please check the phrase.

Lines 154-157: I suggest to rephrase “*The data and metadata specified in the global attributes use the SeaDataNet parameter discovery vocabulary (<https://www.seadatanet.org/Standards/Common-Vocabularies>) and the conventions: OceanSITES v1.4, SeaDataNet\_1.0, COARDS, CF-155 1.6) sufficiently well described to be readily integrated with other data sources. The metadata accurately describe the data ensuring their reusability in future research and their integration with other compatible data sources.*”

Section 2.3 → please revise this section addressing the following issues:

Line 159: I suggest to rephrase: “*First check of ADCP and CTD data is a general screening-view; ...*” with “*A first visual check of ADCP and CTD data time series gives a quick idea ...*”

Line 161: Please improve this phrase and specify the **out of range criteria** applied: “*This screening phase allows to detect anomalous values which are those out of range with the rest of the series and helps to exclude from the time series data when systems are outside the water determining the corrected start and end of the time series.*”

Which ranges did you consider?

Line 170: Please improve, this is a suggestion: “*The next data processing consists of the application of applies a data quality control criteria based on the parameter “percentage good” provided from the recording system*”

“*A quality flag is assigned to each observation coded following the SeaDataNet Quality Control guidelines (detailed in the (SeaDataNet, 2010) and in particular referred to and the L20 SeaDataNet Measurand Qualifier Flags (last update at [address http://seadatanet.maris2.nl/v\\_bodc\\_vocab\\_v2/browse.asp?order=conceptid&formname=search&screen=0&lib=l20](http://seadatanet.maris2.nl/v_bodc_vocab_v2/browse.asp?order=conceptid&formname=search&screen=0&lib=l20)) as reported in Table 3.*”

Table 3 is not necessary since the link is pointing to the same table, do you want to keep it?

Lines 174-175: “*The data matrix structure explained in the metadata of the published database is composed both by data not subjected to quality control and by data adjusted after quality control.*” This phrase is very confused here. At line 182 you explain that the original data are also provided with quality flag0.

Lines 180-185: All the data should be included in the time series and not deleted, quality flag are assigned in order to give the user the quality filter criteria to skip what is not matching the needed quality standards. Moreover, flag 5 is used when data value are adjusted during quality control (i.e. in CMEMS Argo data) and not changed to NaN, thus deleted. This strongly limits the data accessibility and reusability. The practice is to leave the data and assign flag 4 (bad data) if not passing your QC. The question is: what’s the difference between the data flagged 1 and the original data flagged 0? The data that passed your PG80 are not modified, right? Please clarify.

What **coarse errors are corrected** by the SBE Data Processing™ software?

Spike test and gradient test did not detect anomalies. This means that the threshold set in your procedure (identical to the SeaDataNet manual, as the added text added) are not proper for your data. Usually a statistical analysis of your dataset on the property (i.e. temperature and salinity gradient) distribution and frequency is necessary to identify the proper thresholds. Could you please provide some stats and justify your choices?

Line 206: you refer to the canyon site, please as I asked at the beginning refer to BB and FF to help the reader. Here your answer to my early question:

Q. please define once canyon site (BB) and open slope site (FF) and keep them in all manuscript.

A. Complete revision is done

Moreover you display smoothed data and refer to mean and extremes computed from original data that are not in Fig. 2a (axis are tighter than the reported extremes), which is misleading. Same comment at line 209. How do you suggest to proceed? I also raised this issue (Q. The data are visualized with filters that do not show the actual data values a dataset paper should present.) before the discussion but nothing has changed.

Line 226: "...vertical temperature gradient is constrained around 0.05°C and 0.2°C ..."  
Vertical gradient is usually reported as °C/m, are you talking about the temperature differences between upper (ADCP) and lower (CTD)? Please clarify and correct eventually also in the successive data interpretation.

Line 262: Could you please improve the description of figure 7? Daily smoothing vs 7-day smoothing window? The caption can be improved as well.

*Figure 7. Time series of currents at BB site in the upper (UL) and lower layer (LL) of the water column: (a) speed, (b) east, (c) north and (d) vertical components. The data for a better visualization are presented with a 7-day smoothing window.*

Data Availability → please indicate the full link <https://doi.org/10.5281/zenodo.6770202>

Line 340: "*The dataset presented conclude in 2020 but monitoring activities are still in progress and future data collected by these stations will be added to an updated version of the repository as advancing of the data collection to convey the progress of oceanographic observations to the scientific community.*" Could you provide a data update strategy/frequency? i.e. yearly? every 5 years?

Figure and Table captions can be improved to be complete and self-explanatory. Here a couple of suggestions (in section 3.1 BB and FF do not appear, then they are used in 3.2!! Please harmonize):

*Figure 2: ADCP and CTD temperature records at two mooring sites: (a) BB on canyon (600m depth); (b) FF on the open slope (700m). The data are presented with a 3-day smoothing window.*

*Figure 3: ADCP Salinity records on **the** two mooring sites **BB and FF**.*