

Review of 'Dataset of Depth/Temperature profiles obtained in the period 2012-2020 using commercial fishing vessels of the AdriFOOS fleet in the Adriatic Sea (Mediterranean Sea)' by Penna et al.

The manuscript describes oceanographic data acquired in the Adriatic Sea from 2012 to 2020 using both oceanographic and fishing vessels as vessels of opportunity through the Fishery and Oceanography Observing System (FOOS), here called AdriFOOS, developed by the Italian National Research Council (CNR). The acquired data are vertical and horizontal profiles, at constant depths, of temperature and pressure/depth (TP) along the entire Adriatic basin, carried out during fishing activities.

The work is very interesting and could be replicated in other areas not only in the Mediterranean. However, this implies that the authors are clear, concise and exhaustive in the description of the instruments, the acquisition methods and subsequent data quality control, as well as in methods and frequency of sensor calibrations. Since the title is "Dataset of Depth/Temperature profiles obtained in the period 2012-2020 using commercial fishing vessels of the AdriFOOS fleet in the Adriatic Sea (Mediterranean Sea)", the authors should mainly focus on instruments and such data and only mention the AdriFOOS system as a whole. Instead they dwell on descriptions of the system, losing sight of the data and, then, confusing the reader, also because the work is thus very long. Authors should therefore decide whether to stick with the title and drastically reduce the descriptive part to the system or change the title and reorganize the work as a whole.

Personally I would suggest the first choice, totally focusing on the TP data, and in such a direction I continue my review. In the introduction you write that "some collected datasets were already shared on public repositories(e.g. Puillat et al., 2014; Gaughan et al., 2015; Sparnocchia et al., 2017).", that are three project reports, long to be read and often temporary on the web. I would suggest a table with a list of the already existing open repositories of the data (DOI or any address).

In methodologies, the first two subparagraphs are fine, with some corrections (see specific comments). In 3.1 there is a mention of acquired conductivity data through the NKE STPS but then it is no longer mentioned along the paper (apart at line 263). Explain why conductivity data are not considered in this work, or if they are just for temperature/pressure. Subparagraph 3.3.1 should be eliminated because it is disconnected from the rest as it is written, not giving additional information on the TP data. 3.3.2 should be summarized. If some parts refer to data activities, they should be moved to the corresponding paragraph. I would eliminate par. 3.3.3. or it should be drastically reduced. Paragraph 4 is very important but needs to be rewritten because it seems to be divided into two specular parts which confuse the reader a bit. It is necessary to describe how the sensors are calibrated instead of just putting "see Martinelli et al., 2016".

Paragraph 5 on Data records is fine even if I would eliminate some sentences and several figures (see specific comments) that I consider superfluous.

In the Results at paragraph 7, several figures in the ODV with the relative descriptions must be eliminated and the paragraph must be completely revised (see specific comments). Authors could eventually create a previous paragraph where they can describe the potentiality of the dataset. Here, often, other data and the potentiality of AdriFOOS is given that is outside the aim of the paper.

Comments in detail:

- line 58: you mentioned that some data are shared in open repositories. I would suggest to put a table here with a list of data and addresses or DOIs.

- line 68: change model in models
- line 70: “is to” duplicated in the sentence
- line 79: change “shallower” in “shallowest”
- line 83: change Bora and Scirocco in the “NE-ENE Bora and the SE Sirocco”
- line 84: change in “...2001).”
- line 157: here you write “in situ wind speed and direction (real and apparent),”. Please explain how you correct these data from vessels' speed and heading
- lines 212-215: Figure 6 is huge and composed by three smaller figures that, in some parts, are difficult to read. If possible, I would suggest to choose one of them having the possibility to increase it in size and its readability
- line 220: change “tested” in “calibrated”
- line 220: put the data of the reference Martinelli et al. within brackets (2020)
- line 226: please specify/describe the “specific software” here mentioned. Commercial or created ad hoc?
- lines 233-235: please check if it is necessary to move all or some of these lines at the beginning of the paragraph. In this position it looks like a re-start of the description of data, in my opinion
- lines 252-253: I think that the sentence “...are evidently still invalid and consequently flagged as incorrect” is linked with the red profile in figure 7b. If correct, please specify it. Can you check the temperature unit in Figure 7b, please?
- lines 260-264: these 5 lines should be deleted because no information is given on the subject of the paper (temperature and pressure data). If I am wrong than authors should rewrite them highlighting how they are linked with temperature and pressure data
- lines 277-278: the sentence “This software is freely available for non-commercial, non-military research and teaching purposes.” must be deleted. All ODV users know this sentence from the website and its manual. The reference is enough.
- lines 303-306: please rewrite sentences but delete Figures 10 and 11 that are not necessary. In this way authors can give more information and keep the attention of the reader. These two short sentences and the following figures make the part less readable
- lines 327-344: please delete or synthesize but eliminating the mentioned figures. Here authors just put captions in the text then passing from a figure to the following then greatly weighing the discussion down, a very important paragraph in the whole paper.
- line 353: please re-write the sentence not starting with “Figure 14 shows...” but “A comparison....”

- lines 355-364: delete this part. This is a discussion and conclusion that should summarize the whole paper based on temperature and pressure data collected in a dataset, that authors have described. If authors want to keep it, than a new paragraph should be created before this one keeping in mind the aim of the paper.
- lines 364-376: please synthetize these sentences
- Figure 14: please increase the thickness of the lines in the plot from 14a to 14 c and the size of the graph labels in all plots. Otherwise once published they will be unreadable.
- lines 394-397: please delete the sentence till "*engrausicolus*)." and the corresponding Figure 15
- lines 398-400: please delete from "in fact..." to "...Furthermore"