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Discussions

Interactive comment on "Variability of water mass properties in the Strait of Sicily in summer period of 1998–2013" *by* A. Bonanno et al.

Anonymous Referee #2

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The manuscript by Bonanno and coauthors aims to discuss the variability of the properties of the water masses in the Strait of Sicily in summer from a comprehensive database consisting of data collected during yearly cruises from 1998 to 2013. Some considerations regarding the surface dynamics are also made using satellite altimetry data, though the connection to the hydrology is quite unclear. Results are presented and discussed together, and mainly reflect what is already known without offering fresh insights or contributions to existing knowledge. I recommend major revisions before publishing the paper in OS.

Specific comments:

1) The Abstract is very poor. More than half of it is a general introduction to the studied area. It doesn't summarize the major findings, if any, of the paper (what are the novel

results coming from this analysis?). The last sentence (line 15-17) can be removed.

2) I suggest to move the discussion, presently embedded in the presentation of the results, to a separate section. This will allow the authors to better describe their findings and separate them from the results of others. Moreover, it could also be helpful if a description of the water masses expected in the area is presented in a dedicated section early in the paper, perhaps just after the introduction.

3) To identify some water masses in Fig. 2, the authors should present some zooms of parts of the plot. For instance, it is not easy to find the WIW signature (is it really there?), and the tEMDW signature will be more evident adding a panel with an expanded view of the Theta-S plane around 38.5 <S< 38.8. Maximum salinity from the Ionian stations (Long > 15 E) is labeled with "CIW", but I think a signature of LIW should be found there too (saltier than in the Strait because it has undergone a minor along-path dilution).

4) Tables 2 and 3: standard deviations and average values should be rounded to one significant digit. This will also help to better understand the variability in the data, and to compare trends from one year to the other. Moreover, presenting results in plots instead of tables can make for easier analysis. An example: you could add plots with the depths of Minimum and Maximum Salinities in Fig. 3 and eliminate Table 3.

5) P. 813 line 22: the Adventure Bank (AB) is not shown in Fig. 1.

6) P. 815 line 27: Remove "PSU" (and from the column labels in table 2 as well).

7) P. 815 lines 26-27: "... vertical profiles of temperature (°C) and salinity" is enough, you didn't use conductivity and pressure (used for calculating derived variables, including depth in meters).

8) P. 816 line 2: "... General Oceanic rosette equipped with ... (I would add "equipped). Moreover, "the sensors were calibrated". NURC has changed its name and is now CMRE (NATO Centre for Maritime Research and Experimentation).

9) Fig. 7: a and b labels are lacking.

10) P. 820 line 7: Could you please insert a reference to Fig. 8 where the location of station 945 is shown?

11) P. 820 lines 18-20: do you mean that the decreased salinity of LIW is due to dilution in the Ionian Sea or to a variability at the source ("native LIW"?) or both?

12) Fig. 8: you should explain why you didn't use station 945 for drawing this figure, seeing that you have profiles for this station from 1998 to 2013 as you show in Fig. 5; station 945 and G605 are quite far each other!

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