

Interactive comment on “Meteo and hydrodynamic data in the Mar Grande and Mar Piccolo by the LIC Survey, winter and summer 2015” by Michele Mossa et al.

Michele Mossa et al.

diana.depadova@poliba.it

Received and published: 9 November 2020

Interactive comment on “Meteo and hydrodynamic data in the Mar Grande and Mar Piccolo by the LIC Survey, winter and summer 2015” by Michele Mossa et al.

Stefano Sibilla (Referee) stefano.sibilla@unipv.it Received and published: 4 November 2020

GENERAL COMMENTS

The paper describes the meteorologic and hydrodynamic datasets collected at two fixed stations located in the Mar Grande (MG) and in the Mar Piccolo (MP) bays of



the Taranto harbour. Both stations are equipped with an ADCP profiler and a wave array; the first station is also equipped with a weather station and sensors of different water quality parameters. The stations allowed the Authors to collect, for a winter and a summer month in 2015, current profile, wave, meteo and water quality data records at the MG station and current profile, wave and temperature data records at the MP station. The provided datasets can be used to both complement and validate the findings of other studies and numerical models, in order to better understand the hydrodynamic And biological patterns which characterize this complex coastal basin. The good quality and completeness of these datasets can therefore highly contribute to transform the Mar Grande/Mar Piccolo case study in a benchmark case, upon which methods and models can be tested, before extending them to similar basins.

We would like to thank the Reviewer for his careful reading of our paper and comments. We appreciated criticisms and requests of clarification and integration, which allowed us to better explain our paper. We will review our work accordingly, and detailed answers are shown in the following.

Specific comments

In the paper, the Authors show a sample of the results obtained from the MG station in terms of direction and intensity of surface and bottom currents, of winds and waves, as well as time series of temperature, salinity, dissolved oxygen and chlorophyll. A brief interpretation of these data, in terms of current circulation patterns and of water quality time trends, is also proposed. The results obtained from the MP station are instead not shown and commented. I understand that this is probably due to conciseness reasons; however, a brief comment about the quality and use of these data may add value to the paper.

Following this comment, in the revised version of paper, a sample of the results obtained from the MP station will be added.

Authors may explain why the MP station is located in the navigable channel between



the two bays and which are the advantages (or the limits, if any) of this location in terms of information given by the station on the circulation regimes in the Mar Piccolo and on the flows exchanged through the channel itself.

The Mar Piccolo site with its typical lagoon features, is extremely vulnerable and is often suffering scarce circulation. The main exchange flow is through the Navigable Channel. As shown by previous studies and field data analysis from MP station (Armenio et al., 2017; De Serio and Mossa, 2018; De Serio et al., 2020) the net flow is inflowing at deeper layers, from the bottom up to 4m depth, while in the most superficial layer it is directed outward of the basin. Therefore, monitoring actions, as that of MP station, is necessary to better understand the most significant hydrodynamic–biological variability of this extremely vulnerable coastal site. The results of this study can be applied for similar zones. Following Referee's advice, this information will be added also in text files in the revised paper.

Armenio, E., De Serio, F., Mossa, M. Analysis of data characterizing tide and current fluxes in coastal basins. *Hydrology and Earth System Sciences*, 21 (7), 3441-3454, 2017.

De Serio, F., Mossa, M. Meteo and hydrodynamic measurements to detect physical processes in confined shallow seas. *Sensors* 18 (1), 280, 2018.

De Serio, F., Armenio, E., Ben Meftah, M., Capasso, G., Corbelli, V., De Padova, D., De Pascalis, F., Di Bernardino, A., Leuzzi, G., Monti, P., Pini, A., Velardo, R., Mossa, M. Detecting sensitive areas in confined shallow basins. *ENVIRONMENTAL MODELLING & SOFTWARE*, vol. 126, ISSN: 1364-8152, doi: 10.1016/j.envsoft.2020.104659, 2020.

Interactive comment on *Earth Syst. Sci. Data Discuss.*, <https://doi.org/10.5194/essd-2020-229>, 2020.

Printer-friendly version

Discussion paper

