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Discussions

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.

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Received and published: 22 October 2020

Dear Editor, first of all we would like to thank you for the careful reading of our paper. Secondly, we appreciated the criticisms and the requests of clarification and integration, which made us possible to better explain our paper. We have reviewed our work according to your questions and, in the following, you will find a detailed answer to each of them.

Topical Editor Initial Decision: Start review and discussion after minor revisions (review by editor) (09 Sep 2020) by Giuseppe M.R. Manzella Comments to the Author:

Two important elements should be included in the paper: 1) Data formats. There are many data models and data formats (e.g. https://www.seadatanet.org/content/download/636/file/SDN2_D85_WP8_Datafile_formats.p – but also netCDF in general, oceanSites, etc). The authors should discuss their choices.

Following this comment, in the revised version of paper, data format description has been added.

2) In 2010 a new standard for the properties of seawater called the thermo- dynamic equation of seawater 2010 (TEOS-10) was introduced, advocating absolute salinity as a replacement for practical salinity, and conservative temperature as a replacement for potential temperature. (https://en.wikipedia.org/wiki/Salinity). The authors should discuss the common vocabularies generally adopted for the naming conventions (see e.g. https://vocab.seadatanet.org/search vocabularies P01, P02, P03).

We agree with Editor's observation. In fact, in June 2009, a new Thermodynamic Equation of State of Seawater, referred to as TEOS-10, was adopted by the Scientific Committee on Oceanic Research (SCOR) and the International Association of Physical Sciences of the Ocean (IAPSO) Working Group 127 (WG127) (McDougall et al., 2009A). The new equation incorporates a more accurate representation of salinity known as Absolute Salinity. The main justification for preferring Absolute Salinity over Practical Salinity is that seawater's thermodynamic properties are directly influenced by the total mass of dissolved constituents (Absolute Salinity). However, the mass of dissolved constituents is regionally variable and are not always accurately represented when using conductivity measurements of seawater, the key parameter in the calculation of Practical Salinity. An algorithm is available that allows an estimate of Absolute Salinity to be expressed in terms of Practical Salinity (McDougall et al., 2009B).

The WG127 (SCOR/IAPSO Working Group 127 [2005 - 2012]) concluded there are very good reasons for continuing to store Practical Salinity rather than Absolute Salin-

ity in [such] data repositories: 1) Practical Salinity is an (almost) directly measured quantity whereas Absolute Salinity (the mass fraction of sea salt in seawater) is generally a derived quantity. (McDougall et al., 2009A). 2) it is imperative that confusion is not created in national data bases where there is a storing Absolute Salinity.

In the revised version of paper, the type of salinity and Temperature has been specified. In particular, our dataset contains a storing Practical Salinity (PSU) using PSS-78 algorithm and a storing Potential Temperature measured in ITS-90 degrees Celsius ($^{\circ}$C).

McDougall, T.J., Feistel, R., Millero, F.J., Jackett, D.R., Wright, D.G., King, B.A., Marion, G.M., Chen, C-T.A., and Spitzer, P. 2009. Calculation of the Thermophysical Properties of Seawater,Global Ship-based Repeat Hydrography Manual, IOCCP Report No. 14, ICPO Publication Series no. 134. McDougall, R., Jackett, D.R., and Millero, F.J. 2009. An algorithm for estimating Absolute Salinity in the global ocean, Ocean Science Discussions,http://www.ocean-sci-discuss.net/6/215/2009/osd-6-215-2009.pdf