

## ***Interactive comment on “Mediterranean Sea Hydrographic Atlas: towards optimal data analysis by including time-dependent statistical parameters” by Athanasia Iona et al.***

### **Anonymous Referee #1**

Received and published: 6 February 2018

General Comments. The paper is presenting a new climatological atlas of the Mediterranean Sea and discussing its quality. The authors are well presenting the problems related to different data collected with different technologies and to the uneven distribution of data. The methodology applied to calculate the climatologies is particularly useful in these cases. The Mediterranean is a semi-enclosed concentration basin with dense and deep water formation. The reduced Rossby radius and the high mesoscale variability should be discussed: how do they influence the data variability. The selection of the grid size in some sense is also filtering out some phenomena. A short discussion on a such effect would be beneficial for the future use of the climatologies.

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Specific comments. In the abstract it is cited the original source of data (<https://doi.org/10.12770/8c3bd19b-9687-429c-a232-48b10478581c>) and not the climatologies produced by the authors: this should be changed. Furthermore, data source is accessible only through a password. Indications on how to access them must be provided.

In the abstract a sentence should have an additional information (lines 17-18): especially in critical areas of interest such as the Marine Strategy Framework Directive (MSFD) regions AND SUBREGIONS.

In the Introduction the physical characteristics of the Mediterranean water masses are presented: the authors should specify the unit of the salinity and, if it is in absolute salinity, how the old values have been transformed.

line 20, instead of Temperature and Salinity values, for the Cretean Sea waters the density has been provided: to be coherent, also in this case T and S should be provided.

line 33 it is mentioned a V1.1 version of the Simoncelli climatology: it is V2. Correct the value also in other places.

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