

Review of manuscript "Physical forcing and physical/biochemical variability of the Mediterranean Sea: a review of unresolved issues and directions for future research" by Malanotte-Rizzoli et al., submitted to Ocean Science

An attempt has been made to collect the most of the research on the Mediterranean physics and biochemistry, and to collect as many as unresolved issues which may be the basis for future research activities. I am aware that it is impossible to review in an article all research activities and put all unresolved issues, but the authors put an effort to achieve this logically. However, the manuscript suffers from a number of defectives, of which the most are related to the structure of the manuscript which is obviously written by several authors and is not properly homogenized. Specifically:

- The structure of subsection is heterogeneous, for example section 2.1.1 is written in one form (short scientific questions), Section 2.2.1 in other form (extended text on unresolved issues), Section 2.3.1 with a title for separate unresolved issue, Section 3.2.1 with additional text, etc. Also, some subsections (e.g. 3.4, 3.7) contain scientific questions in an introductory text, aside the list of unresolved issues which are listed in separate subsections. Some of subsections contain a long list of scientific questions/unresolved issues (e.g. subsection 4.1.4 contain 11 bullets) while some others contain a very short list (e.g. subsection 3.2.1 contain only 2 bullets). All of these have to be homogenised in the same manner.
- There is an overlapping between some subsections and text. E.g. shelf dense water generation and cascading is mentioned in subsections 2.1, 3.2 and 4.2, with some repetition of the text.
- Subsection 3.2 "Interactions between the shelf/slope circulation and open sea in the Mediterranean" is more appropriate to be placed under section 4 "Shelf/deep sea interactions and exchanges of physical/biogeochemical properties and how they affect the sub-basin circulation and property distribution" than in section 3. Btw. the titles of some sections and subsections are pretty long and should be shortened.
- Also, the subtitles "Specific issues" are not appropriate. I suggest that every subsection has the subtitles "Present knowledge" (or similar) and "Unresolved issues".
- Why only subsection 4.1 is divided regionally (Alboran Basin, Balearic Basin, Eastern Mediterranean and Levantine Basin)? Aside that such a division is strange itself, it is not necessary and should be removed and the text should be unified.
- The authors should mention in conclusions (and/or introduction) that the listed work and unresolved issues are just their selection, but the real list of unresolved issues which may be placed under physical forcing and physical/biochemical variability of the Mediterranean is much wider and cannot be listed in an article but only in a thick book.
- The provided abstract is really not an abstract (except the last sentence) but an introduction to the manuscript and should be therefore placed in introduction.
- Some strange text may be found, e.g. page 1210 "we may reproduce a couple of figure from the above mentioned papers" (?) The text should be checked and polished.
- Regarding figures, it is quite a strange that the review manuscript of such type contain not a single figure or table. I believe that 7-8 figures/tables should be placed in the manuscript, supporting the most important parts and questions posed in the text.