Answer to comments of referee #2

We would like to thank the reviewer for her/his constructive criticisms and helpful suggestions.

1. *A snapshot is presented, but the aspect of evolution of the hydrography under the post-EMT* ***and WMT conditions is under-developed.***

   This manuscript is part of a special issue dedicated to the Mediterranean Sea. In particular, the paper of Cardin et al., which will appear in that issue, is focused specifically on the long-term evolution of the basin hydrography and hence it deals particularly with the post-EMT condition. Hence, our paper has to be regarded as a companion paper of Cardin et al. This fact is now expressly stated in our introduction.

2. ***I find Chapter 3 confusing; the paper would gain by a certain reorganization of this section.***

   We re-organized Chapter 3 to make it more readable.

3. ***It is stated that only a fraction of the AW passes the Sicilian Channel (page/line 2401/8). Surely part of it is converted into WMDW, but to my knowledge, the Sicilian Channel flux is of similar magnitude as the Gibraltar inflow. This must mean that the former flux is amplified by returning LIW or the like; reword or clarify.***

   We reformulated this part of the manuscript and, particularly, reworded the part dealing with the flow passing the Strait of Sicily. A reference to the paper of Pierini and Rubino (2001), who studied the two-layer dynamics of the Strait has been added.

4. ***The LIW is associated with a salinity maximum in 50 to 600 m (2401/17), but is not the lower part of that range either CIW (which ios mentioned somewhat further down) or transitional EMDW?***

   In the new version of the paper we improved the description of water masses in accordance with the suggestion of the Reviewer.

5. ***It is stated that the near-bottom T and S values are distinctly lower in the WMed than in the EMed (2408/25 and ff.) but this fact as such is no different to prior to the transients and also well known. The more interesting aspect would be the changes relative to to previous years. Same for LIW in discussion of Fig. 3.***

   As clarified in our answer to point 1 (see above), this manuscript is to be regarded as a part of a special issue dedicated to the Mediterranean Sea. In particular, the paper of Cardin et al., which will appear in that issue, is focused specifically on the long-term evolution of the basin hydrography and hence it discusses, among other things, near-bottom T and S modifications occurred in recent years as well as LIW variability. So, our paper has to be regarded as a companion paper of Cardin et al. This fact is now expressly stated in our introduction.

6. ***Various T-S maxima and minima are mentioned occurring in different places at different depths (p. 2410). The cause certainly is that the Aegean continued to produce smaller amounts of CDW, which reached to variable depths upward of about 2000 m. The text notes (2410/20) restricted ranges between T-S maxima and minima compared to earlier, but this is of course a natural consequence of ongoing mixing.***
   We reformulated the sentence according to the suggestion of the reviewer.

7. ***The weight of oxygen in the OMP is so much lower than those of the other properties ((2406/16) that I suspect that, in effect, you have not four, but rather only three constraints. Can you defend your approach? – I dispute the statement that oxygen is a quasi-conservative property (2405/15 ff.), considering that the replenishment of the deep waters is on the order of 50 to 100 yrs (cf. Roether and Well, DSR I, 48, 1535 (2001)). – The sentence beginning at (2406/13) is very unspecific.***

We reformulated that sentence in our manuscript to better clarify the use of the selected parameters in our OMP. Oxygen is considered a quasi-conservative quantity in the temporal frame of the analyzed observations. In this sense, it has been commonly used for OMP in literature. Even if the weight for oxygen is considerably small, it is needed to make the OMP method working. For a compensation of this disadvantage several OMP runs were made, for the same region, considering three water masses. In this way we obtain a more complete picture of the relevance of the different water masses

8. ***OMP in Chapter 3. A statement is made that the EMDW in the Levantine still contains a high amount of AdDW (2412/29). I believe that this due to the fact that the AdDW properties (Table 1) are ok for 2011, but that salinity and temperature are too high for the period prior to the EMT when the bulk of replenishment of the deep Levantine occurred.***

   We reformulated this statement in accordance with the suggestion of the reviewer.

9. ***ADCP currents are strictly local while geostrophic ones are averages between stations. Given the presence of small eddies (s. 2408/7) it is wrong to call their difference "ageostrophic".***

   The ADCP data were also averaged between stations in order to be comparable with the results of the geostrophic calculations. This is now explained in the manuscript. The difference is called "ageostrophic" in the sense that just those parts remain of the ADCP velocities which are not geostrophic when you subtract the geostrophic calculations from the observed ADCP velocities. Also this fact is now explained in the manuscript.

10. ***Technical items***

    All technical items were changed according to the referee's suggestions with one exception:
    Fig. 5: The easternmost Levantine stations are located south of the Hellenic Trench.