

Responses to the Reviewers' Comments

Manuscript egusphere-2026-1549 — “Evaluation of a Coupled Regional Reanalysis for the Mediterranean Region Covering the Period 1993–2024” — 2nd Review

We thank the Editor and the Reviewer for their careful reading and constructive comments. We have revised section 5.1 to address the reviewer and editor's comments. We have also fixed a couple of typos while re-reading the manuscript.

Reviewer 1

In Fig. 14, the unit for the OHC trend is given as $J\ m^{-2}\ yr^{-1}$, whereas L562 uses Wm^{-2} . OHC itself should not include a time unit, while its trend should.

There is no mention of $W\ m^{-2}$ at line 562, however we revised the figure to use $W\ m^{-2}$ for consistency with Table 4. Both Figure 14 and Table 4 show trends, not mean states, which means unit is the unit of OHC over time, i.e. either $J\ m^{-2}\ yr^{-1}$ or $W\ m^{-2}$ (with conversion factor as $1/(86400*365.2425)$): we have now homogenized the manuscript to use W/m^2 .

The units in Table 4 should be revised accordingly as well.

We have revised Table 4, see below, also to stress that it contains trends.

The layout of the subplots in Fig. 14 may also need adjustment. Having Ocean Salt Content alone in the upper-right position looks rather odd.

We agree and have moved the OSC panel at the end of the figure, and ordered OHC panels by depth, so it is more logical.

If the long-term changes in the Mediterranean ocean fields differ clearly between the western and eastern basins, then using the Strait of Sicily to distinguish the geographical distributions of OHC and related variables does not appear particularly compelling. However, there may indeed be no better alternative. If the Strait of Sicily is only a somewhat tentative dividing criterion, adding mixed-layer information to Table 4 could make the results more complete.

Unfortunately, we found no better way to divide the Mediterranean Sea in western and eastern basins; the distinction through Strait of Sicily is the best we found in literature and, since it has been used in the past (see UN/FAO <https://www.fao.org/fishery/area/fao:37/en>). Please note that Table 4 contains only trend diagnostics therefore we added the trend of (winter) MLD (its mean value is less sensitive and anyway very close between eastern and western basins).