Dear editor,
I have read this paper and think it fits the scope of ESD. Moreover, I think the material presented in the paper is an welcome addition to the knowledge on climatic changes in the Mediterranean. My main issues with the current manuscript are in the presentation. I think it is quite long and should be more focused, possibly with a reduction in the number of figures.
Kind regards,

AU: We thank the reviewer for a very through revision comments and useful feedback regarding our manuscript. Please find below our responses to the reviewer's concerns. We have specified how we would address all of the major comments when revising the manuscript. We have also made an effort to address the minor comments. We will focus our attention also to improve the readability of the text and make it more concise.

Specific comments:
1. The paper is quite long and elaborate, maybe wise to focus a bit more and reduce the number of figures?

AU: Thank you for the comment. Following the reviewer's suggestion we will work on the manuscript to make it more comprehensible. Particularly, we will summarize the discussion of the previous studies in a more concise way. We will also move the relevant information on the Mediterranean climate, located in sections 3.2 and 3.3, to the Introduction or to the dedicated background section.

2. There are many long sentences throughout the paper, which make it hard to follow the reasoning sometimes. I suggest to have a good look at opportunities to shorten them.

AU: Thank you. We will follow the suggestion and clarify the key messages.

3. In many places in the manuscript, geographic names (Levant, Asia Minor, Balkans, Sahara, North Africa, EMED, and many more) are used to describe the model results.
This assumes that the reader knows the location of all these places, which is probably not true. I suggest to indicate the relevant places in a figure and to be more specific in the geography when mentioning other places.

AU: Thank you. We will make an effort to be more specific when using geographic names.

4. You compare the high resolution model output to NCEP/DOE reanalysis of 2.5 degree resolution. Why not compare it to higher resolution products, such as ERA5?

AU: Thank you for the comment. We will take it into consideration. We will reconsider the choice of the reference observations used in the manuscript.

5. Is there a significant difference between the top and bottom panels in Fig 7? It is not clear to me, maybe use a different color scale?

AU: Yes there is a significant difference between the top and bottom correlations, computed between the stormtrack proxy and the SNAO index. For example, negative correlations over northwest Europe in the 1970-2011 (bottom) are weaker than -0.5, while the correlations in 1950-1990 (top) are stronger than -0.65. We will consider a way to improve the figure, so the difference is more discernible for the reader.

6. Indicate different data sources (HIST, PROJ runs) in Fig 11c? Maybe by a vertical line in the plot?

AU: Thank you, we will follow the advice.

7. P21L35, "This may stem from...". I agree that the anthropogenic forcing is not included in the control run and may contribute to this discrepancy. But what about other explanations?

AU: Here we would like to provide a more thorough explanation for the apparent better agreement between the observed and simulated SNAO before 1980s than for the later period:

"This may stem from the fact that the SNAO component derived for the simulated and observed recent decades (1980s-2010s) could be to a large extent conditioned by a coincidence of the multidecadal scale internal (unforced) variability and multidecadal anthropogenic forcing. Taking into account the random nature of the unforced climate variations, their temporal evolution in the simulated 1980's-2010's period may look very different from the observed one. In a presence of an additional long-term component, such as anthropogenic forcing, the EOF analysis (which is set to extract a signal explaining a maximum variance) is likely to choose a combination of a random representation of the unforced variability and the anthropogenic forcing. This combination (regarded as the SNAO component) may have a very different form in the observations and simulations."

We will clarify the relevant paragraph of the manuscript.