

## ***Interactive comment on “Atmospheric pollution concentrations over the Eastern Mediterranean during summer – A review” by Uri Dayan et al.***

### **Anonymous Referee #1**

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Atmospheric pollution concentrations over the Eastern Mediterranean during summer – A review

Uri Dayan, Philippe Ricaud, Régina Zbinden and François Dulac

General Comments: This is a very carefully written paper reviewing extensively the literature on the concentration of pollutants in the Eastern Mediterranean. As the title suggests, this review is focusing explicitly during the summer months. I consider this as a limitation, whereas, in the way the paper is structured, it could be more general covering the entire year and not just the summer season. Indeed, a lot of the meteorological background provided applies to most of the year. However, the authors very carefully stress the summertime atmospheric patterns more, in their effort of course to justify the title. Saying the above, I do not have any objection to the authors' seasonal reference

to their topic. It is a targeted paper for the East Mediterranean and for summer. This is acceptable. My only suggestion to conclude this comment of mine, is to add one sentence in the beginning stressing why summer is more important to review than any other time of the year (this will justify the title also). There are several statements like “The Eastern Mediterranean (EM) is one of the regions in the world where elevated concentrations of primary and secondary gaseous air pollutants have been reported frequently, mainly in summer” and “observed in the summer over the EM are among the highest over the Northern Hemisphere” etc. Maybe it is useful to summarize all these reasons for choosing EM and summertime by saying something like “based on the above, . . . . the paper focuses explicitly on EM and summertime, because . . .”. The structure of the paper is quite logical and the flow in reading through it is quite smooth. The paper could benefit by adding an Appendix which will tabulate the abbreviations and notations used. Since this is a review paper, another suggestion is to have a table of contents at the start of the paper, if this is of course allowed by the Journal’s style. Such a table should facilitate the reader in locating specific section of the paper. I am wondering whether the use of ppbv is compatible with the use of ppb. In figure 14, for example, ppbv is used in the figure’s legend, whereas ppb is used in the line above this figure. Please check throughout the text. If ppb implies by volume anyhow, please unify the notation of the units used. Complete all figure legends and Table headings with a period at the end, if this is the style of the journal. My impression is that the number of figures (27) is too large, but it is up to the Editor and the Publisher to accept this. Almost all of the figures are reproduced from published research. Finally, I was not able to cross-check the list of references and the citations in the text; I leave this to the authors and the Journal’s editorial team.

Minor suggestions: Although the use of the English language, syntax, punctuation and grammar is excellent, there are a few minor issues that the authors may decide to take care of.

Page 14, line 5 missing quotes “hot pot” Page 15, line 17 “et al.” Page 15, line 20:

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“They...” Whom does it refer to, Myriokefalitakis or Daksalakis? Page 15 line 28: It is not appropriate, to my understanding to start a sentence with O3. You can rephrase it “Measurements of O3....”. Please check elsewhere too. Page 15 lines 28-30: .....performed over.... and from... . Syntax inconsistency? Page 16 lines 1-3. Do you imply that from these two sets of measurements (Finokalia and Thessaloniki) they have deduced a @maximum over .....the Aegean Sea”. I cannot see how this can be deduced from just two measurements. The Aegean is a rather large sea to be so definite about finding a maximum. Page 16, line 11: put a comma after ppbv Page line 21-22: pollutants concentrations OR pollutant concentrations ? Please check for correct English. Page 29 line 8: “; and” please check Page 30 line 17, Starting a sentence with CH4 does not seems appropriate. This was mentioned again, but it is up to the editorial style to adopt it or not. Recommendation: The paper may be accepted for publication in Atmos. Chem. Phys., after a minor revision.

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