

Earth Syst. Dynam. Discuss., author comment AC1
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Reply on RC1

Assaf Hochman et al.

Author comment on "Extreme weather and societal impacts in the eastern Mediterranean"
by Assaf Hochman et al., Earth Syst. Dynam. Discuss.,
<https://doi.org/10.5194/esd-2021-55-AC1>, 2022

ESD-2021-55: "ESD Reviews: Extreme Weather and Societal Impacts in the Eastern Mediterranean" by Assaf Hochman, Francesco Marra, Gabriele Messori, Joaquim G. Pinto, Shira Raveh-Rubin, Yizhak Yosef and Georgios Zittis.

Point by point response to Reviewer 1:

- **Reviewer 1:** This review-based manuscript overviews the extreme weather events and their associated societal impacts in the eastern Mediterranean region -- by Assaf Hochman et al. The paper is generally well-written. The introduction is well-structured with a good story-line explaining the weather and climate extreme processes. The paper covers major extreme events such as temperature, hydrology (heavy precipitation and drought), wind, and a combination of them. Each of these topics are well described, reviewed and interpreted in terms of the physical understanding, observed trend and future projections, and their societal impacts. I found them informative, simple, and well sustained. An extensive and comprehensive bibliography and references are used and cited also.

Response: We would like to thank the anonymous reviewer for his valuable time and useful contributions, which definitely helped to improve our manuscript. We address all of the Reviewer's comments below and describe on how the suggested changes will be implemented in the revised version of the manuscript.

- **Reviewer 1:** However, the summary seems to be a bit lengthy, I would suggest to make it shorter and concise, as most of them were already discussed in the manuscript.

Response: Thank you for this suggestion. We agree with the reviewer that the text could be shorter and more concise here, with less repetition compared to the points described earlier in the manuscript. Thus, we will shorten the summary according to the Reviewer's suggestion. Specifically, we will remove the part discussing the basic definitions of the synoptic systems as they are extensively discussed throughout the text.

- **Reviewer 1:** Additionally, I have some minor comments, see below. I hope that these are helpful for the authors. I look forward to reading the revised version.

- Line 105: can you please define the symbol here, I guess it should be ‘‘omega’’, right?

Response: The reviewer is correct. Instead of using the symbol, we now spell out that we mean omega – shaped anticyclone. This will be implemented in the revised version of the manuscript.

- **Reviewer 1:** Line 273: you may need to cite an appropriate article(s).

Response: Thank you for this suggestion. We will cite Wilhite and Glantz (1985), which discusses the definition of drought, in the revised version of the manuscript.

Reference:

Wilhite, D. A. and Glantz, M. H.: Understanding: The Drought Phenomenon: The Role of Definitions, *Water Int.*, 10(3), 111–120, <https://doi.org/10.1080/02508068508686328>, 1985.

- **Reviewer 1:** Line 575: it is better to move the pdf to the reference section, and just cite it here.

Response: The reference will be moved according to the Reviewer’s suggestion and cited accordingly.

- **Reviewer 1:** Line 656: you may also add ‘hydrologists’; the extremes events such as peak-discharge and flash flooding, could be addressed by specialists in the field of surface hydrology and water-resources management.

Response: The term ‘hydrologists’ will be added according to the Reviewer’s suggestion.

Please also note the supplement to this comment:

<https://esd.copernicus.org/preprints/esd-2021-55/esd-2021-55-AC1-supplement.pdf>