Natural Hazards and Earth System Sciences Discussions

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC2
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Comment on nhess-2022-185

Anonymous Referee #2

Referee comment on "An atmospheric approach to the flood disaster in the Western Black Sea region (Turkey) on 10–12 August 2021" by Onur Halis et al., Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2022-185-RC2, 2022

This paper is aimed at providing an analysis of the atmospheric conditions leading to a flood event in Turkey in August 2021. While the topic is an interesting and timely one, given the extensive research currently carried on about extreme precipitation events, the questions raised by the authors in the Introduction are definitely poorly addressed and not adequately supported by data, figures and/or original numerical studies.

This is quite evident starting just from the abstract, which seems a mere description of the analyzed case study with some qualitative statements about the mechanisms possibly underlying the genesis and the evolution of the event, rather than giving the essence of an original research and its results.

Typical ingredients for convection (e.g. low-level moisture convergence, instability, vertical shear, etc) are not considered or addressed in a simplistic and qualitative way without making use or even mentioning upper air soundings.

The literature cited by the authors is often scarcely relevant for the phenomena under investigation here or not properly addressed and explained. For instance, several works concerning other regions and/or different kinds of phenomena are considered while the extensive literature about severe convection in the Mediterranean region for instance is almost ignored. In particular, the authors refer to the temperature difference between sea surface and 850 hPa as one of the key mechanisms in triggering convection. However, to support this statement they make reference to lake-effect storm situations and threshold values used for snow without discussing it properly.

Last but surely not least, the manuscript quality is definitely poor. The academic merits, if any, cannot be recognized since the text contains countless linguistic errors as well as improper terminology in several parts which make it very hard to read.

In conclusion, although the topic is relevant and some analysis could be potentially interesting if properly described and motivated, I cannot recommend this paper for publication.

Hereafter, a list of more specific comments is given. This is just a very limited selection because almost every single line of the text could give rise to concerns and criticism.

- 3 is definitely not clear, especially panels e) and f) which should be crucial to explain some relevant ingredients for convective initiation according to the authors. Also, the caption is absolutely not clear.
- 4 caption indicates 700 hPa winds while in the text the 500 hPa level is mentioned.
- Lines 172-174. This statement should be better supported by figures. In any case, the SST analysis should be postponed to the following dedicated section.
- 5 caption again is not clear at all with apparently the same dates repeated redundantly instead of being mentioned once at the beginning of the caption. The MSG instrument SEVIRI is misspelled (SEVIRE) throughout the manuscript and the acronym is never introduced and defined.
- Figs 6 and 14 are basically unintelligible. Readers of a scientific articles are not supposed to be detectives, everything should be clear and well described.