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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Observations for high-impact weather and their use in verification" *by* Chiara Marsigli et al.

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Dear Referee, thank you very much for reviewing this manuscript and for providing us relevant comments and suggestions, which help us in making more focussed and more clear the paper. Hereby I reply to the points you raised.

- It is difficult for the reader understanding the link of the two selected phenomena: thunderstorms and fog. The objectives, the products and many other points are very different. If this was the main objective (to show the differences), I think that you should clarify and make a shorter text presenting the different products used for analyzing the results.

We agree with this comment, which gave us the occasion to clarify this issue in the text.

A text has been added in the introduction, motivating this choice and highlighting the differences between the two phenomena and the different usage which can be made of the different products.

- Some of the products are very well presented but, on the contrary, other ones do not. I encourage you to make an exercise of making "uniform" them.

We tried to uniform the presentation, even if this is not easy because some references come from published literature, where many details are provided, and some from "gray" literature, like presentations, which we wanted anyway to include since they can provide some ideas and hints of usage. On top, some papers present a verification, others deal with different topics but they are used as example of observations which we think can be used also in verification. This inhomogeneity of the literature reviewed is unfortunately visible in the text, as you remark, but is also the strength of the paper, we believe, in its effort to put together in a new context data and methods applied until now only to a different range of problems.

- One of the main differences between the products is the number of references. Some of the cases present some references and other ones only one. Having in mind that most of the presented issues have been largely studied and are easily found in the bibliography, I think that you should include more references in the poor cases.

We have included more references for the poor cases, where possible.

- About the lightning data, what about the lightning jump?

In none of the referenced works the lightning jump was used to discriminate between moderate and severe convection. Often the occurrence of a single lightning was taken as an indicator of convection going on, without differentiating based on the number of lightning. Some papers mention that, for verification purpose, "just one lightning" seems to be enough to detect the presence of a convective cell.