

### **Author's response to the topical editor's comments.**

We submit a revised version of the manuscript that tackles all the issues raised by the topical editor.

In particular, we have unified the denomination of the official meteorological database of Spain using the English acronym (NCDB), instead of messing with two different acronyms in English and Spanish. We have also corrected the identified typo (GNDC was obviously a mistake for BNDC; it has been replaced by NCBD now).

We also added author contribution and competing interests sections, which were not present in the original submission.

We have identified several edition problems caused by the PDF conversion tool in MS Word. For instance, the duplicated and misplaced figure (Figure 8), and other minor problems such as broken lines and changes in text formatting. We have not found a good solution to this bug, but we have been able to solve the problem by replacing all internal references in the text (to figures and tables) by standard text. We suspect that the problems mentioned (but not specified) in lines 188, 203, and 446 are also related to the PDF conversion, but we were not able to find any issues on said lines.

Finally, regarding the criteria to select the figures and tables for the Appendix, we carefully selected those that were compulsory to illustrate the results described in the text, and we maintained them in the main body of the article. Figures and tables that contained additional information not necessarily required to follow the text were moved to the appendix, in order to not have too many in the main body. This included all the figures and tables related to the discussion of different options that were finally discarded (discussion section). We would prefer to maintain this criteria, since moving all the tables and figures with validation statistics to the appendix (as suggested) would leave the main body of the article with no content related to the dataset evaluation, which in our opinion is highly important.