Once again, we would like to acknowledge and thank the Editor and Reviewers for their work and their useful and interesting comments. We strongly believe that the feedback has been really fruitful, and that the manuscript and datasets have greatly improved along the revision process. We offer here below in italic the last reflections by reviewer 2 and present how we have addressed them. Reference to modifications in the paper is included when needed as lines (LX) in the revised manuscript.

Reflections to Author's responses:

C64: I agree that the errors are still within an acceptable margin. However, since the purpose of the journal is to describe datasets, in the light of the results you provided in the response, it is worth mentioning that in the first 5 years higher elevation stations are subjected to a slightly greater overestimation of solar radiation, especially during cloudy conditions. And add few indicator numbers such as the Δα, and ΔRMSE range.

C71: Comparability to previous studies is important, I accept that you'd wish to publish the correlations without deseasonalisation. For the sake of accuracy, you should also mention the results you got with deseasonalisation. Something along the lines of, comparison of deseasonalised data show a higher accuracy of the model … and add the Δα, and ΔRMSE range. Maybe even adding those results as a supplementary figure is also worthwhile.

We agree that both results are interesting and therefore integrated them within the manuscript in section 3.4 and Appendix B. In this way the following statements were included:

L217-223: " The cross-validation analysis was also carried out with deseasonalized daily data to remove the expected intra-annual course of global radiation data. The deseasonalization of the daily series was carried out applying a stable seasonal filter (Brockwell and Davis, 2002) as already done in a previous study with other hydrometeorological datasets (Aguilar et al., 2017). Besides, as the reliability of solar radiation estimates is conditioned by the availability of recorded data, the cross-validation analysis for the whole study period was also computed with limited data. Thus, global radiation estimated were generated with only the four stations (601, 602, 604 and 608 in Fig. 1) with the longest records (Figure 2) as inputs to the model. Results are shown in Appendix B."

L246-254: "With the deseasonalized time series (Fig. B1), differences were reduced among the different cloudiness levels. The most remarkable change was a significant improvement in the estimates of cloudy days in every station when the range of RMSE values shifted from 2.54-7.52 (in red in Fig. 4) to 1.72-5.16 MJ m^{-2} day^{-1} (in red in Fig. B1). Also, the range of the slopes significantly narrowed from 1.18-1.74 (red α values in Fig. 4) to 0.92-1.09 (red α values in Fig. B1). Thus, the comparison with deseasonalized data showed a higher accuracy of the model than the one obtained with the original datasets (Fig. 4).

The comparison with limited input datasets shown in Figure B2 confirmed the lower reliability of global radiation estimates in the first five years when datasets recorded at only four stations (601, 602, 604 and 608 in Fig. 1) were available in SN. Here, higher elevation stations are subjected to a slightly greater overestimation of solar radiation (1.34-2.04 in red in Fig. B2), especially during cloudy conditions when the RMSE values increased to 3.62-8.45 MJ m^{-2} day^{-1} (in red in Fig. B2)."