

List of relevant changes made in the manuscript

We include all the specific comments mentioned by the referee, clarify the vocabulary, and correct figures directly in the manuscript. We detail major changes made in the manuscript following referees suggestions, see the marked-up version of the revised manuscript.

We add a specific figure (Fig. 1) to clarify the method section. The figure represents the complete modelling chain used in this study with each modelling step (RCPs, GCMs, RCMs and PE formulations), and the uncertainty method analysis used.

The Table.2 was modified accordingly to the comments of referees; we provide more details about PE formulations with a new column 'type of application', and specific comments about Penman-Monteith FAO and Hamon formulation.

We move details into material and method part as recommended by referees about: the data set descriptions and the signal-to-noise method.

For the uncertainty analysis, we add a panel on figures with the total uncertainty, as suggested by the referees.

We follow the reviewer's recommendations; we analyse the new partition of the total variance for each factor (GCM/RCM/PE formulations) through conducting one uncertainty analysis on a single RCP, namely RCP 8.5. It provides new insights on the signal/noise ratio and its interpretation. RCP 8.5 has the strongest change signal of the three RCPs, and all the GCM/RCM couples used are available for this scenario. The results of this experiment are presented in a new sub-section "3.4: Analyzing the uncertainty in PE projections from a single scenario: the RCP 8.5". The discussion part is also modified to confront results from multi-scenarios and single scenarios approaches.

As proposed by referees we add a new discussion section dedicated to some qualitative statements on the transfer of PE uncertainty to AE, and the sensitivity of the impact model to PE uncertainty, namely "4.3 Implications of evaporation uncertainties in impact studies".