

Response to reviewer #1

We thank reviewer #1 for the useful comments. We have addressed the reviewer's comments on a point to point basis as below for consideration. All page and line numbers refer to the marked-up version of the manuscript.

The authors well considered the comments and suggestions. One remaining issue might need to be clarified. For the sentence (L4-5, P18) "Backward trajectories are calculated over 6 h for summer measurements and 12 h for winter measurements", it is not clear if the authors used trajectories of shorter than 6h in summer and 12h in winter. If yes, since the age weighting factor depends on the backward time, therefore the backward time determines the dominant trajectory through the summation of values according to individual trajectories with different backward time overlapped in a map grid.

Response: The reviewer is correct. We assign the measurement values to the grid points along the backward trajectories with weighting depending on its simulation time. As the simulation time (or backward time) is changing along the trajectory, the weighting of each point along the trajectory is of course different. We have further clarified this issue in the manuscript page 18, line 7-9.