

Comments to the authors of manuscript gmdd-7-C2946-2015 entitled : ““The implementation of a MiXed Layer model (MXL, v1.0) for the dynamics of the atmospheric boundary layer in the Modular Earth Submodel System (MESSy)” by R. H. H. Janssen and A. Pozzer

Dear Authors,

I have read all the referee reports and the detailed replies. The general consensus is that the manuscript should be published and I have quickly checked that the modifications stated have been done. The only remaining issue remains the debate about the description of the MXL model, where the third referee makes a strong objection as he states much of the work has been published in previous papers. To an extent he is correct, although it becomes more handy to have a full treatise in one location. I feel that you should highlight that this is the first time this MXL approach has been used for the purposes of modeling atmospheric composition, which you did in one of your responses

“...there is no description of the equations for the chemical species (since their work does not deal with atmospheric chemistry) and in the work of Vilà et al. (2009, 2011) the land surface and soil model are not described (because their work does not deal with BL-land surface interactions).”

Therefore in both the abstract and at the beginning of Sect. 2 I would like to see a clear summary of what is new in this description in order to clarify for the reader what you have added to the literature on this method. Highlight what new information you provide that cannot be read elsewhere and that this is applied in a new novel way (maybe this required some extra steps ?).

Yours sincerely,

Jason Williams