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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Sensitivity of the WRF model to the lower boundary in an extreme precipitation event – Madeira Island case study" *by* J. C. Teixeira et al.

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Studies that characterise the influence of the topography and land use datasets in numerical weather models are scarce. Also, the use of different lower boundary datasets can significantly modify model results that are tightly connected to processes forced by it. Given this, the authors found that a study to evaluate the sensitivity of model results to different lower boundary datasets would bring an important contribution to the community. In fact, this study shows that the lower boundary conditions data that comes by default with the WRF may produce different results, particularly when simulating this particular event. We also identified that such lower boundary conditions supplied

by WRF, particularly the land use are of very poor quality. In order to strengthen the current journal article the authors agree to provide a physical interpretation of the results on the impact of the different topographies and land use databases on the PBL structure and characteristics, following the recommendation of the referee. Based on the above responses given to the referee comments the authors would like to continue the revision process introducing the proposed changes which will enrich the final paper and provide results that, we feel, are useful on the simulation of extreme precipitations events.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 5603, 2013.