

Interactive comment on “The Hydrological Open Air Laboratory (HOAL) in Petzenkirchen: a hypotheses driven observatory” by G. Blöschl et al.

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We would like to thank Laurent Pfister for his positive and insightful comments on the manuscript. Below, the issues raised in his review are printed under inverted commas.

C3064: Science strategy “The manuscript could certainly gain further interest from developing this aspect: new instruments, new data transmission technologies ...”
Response: We are now addressing this aspect of new instruments in section 2.1.2.

C3064: Implementation “This part of the manuscript is very long and could be re-

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shaped along the various environmental domains that they are supposed to cover”
Response: This part of the manuscript has been shortened and part of the material merged into section 4 (hypothesis) as also requested by reviewer #2.

C3065: Hypotheses: “.. one could argue that the proposed EMMA is subject to known limitations (it is also briefly mentioned and shown in figures that uncertainties related to end-members are assessed) – how is this aspect considered in the analysis?”
Response: EMMA was applied in a Monte Carlo mode with given error distributions on the concentrations and discharges which translate into the uncertainty distributions in Fig. 11. This information has been added to the caption of Fig. 11.

C3065: Hypotheses: “How could new approaches (e.g. new tracers, sensors, protocols, etc.) be used/developed in the framework of HOAL to overcome these limitations?”
Response: We have added a number of sentences to highlight the opportunity of developing new technologies to overcome the current knowledge gaps in section 5.3.

C3066: Lessons learned: “One interesting point in this respect could be to structure the activities listed and developed in the manuscript around the fundamental hydrological (and ecological) functions of catchments, i.e. storage, mixing and release – putting into perspective what physiographic controls act on these functions, inside the HOAL as well as in other catchments.”
Response: While a structure associated with the catchment functioning is an interesting idea if the focus were only on rainfall runoff processes, we feel it does not fully fit the broader perspective of the processes researched in the HOAL.

C3066: Overall assessment: “Title of the paper is not covering all aspects that are dealt with in the paper – it is not only about hypotheses formulation and testing, many more aspects are actually developed.”
Response: We feel that the title does convey the main strength of the HOAL in that it is an observatory with a hypothesis focus.

C3066: Overall assessment: “The manuscript would most certainly gain clarity if short-

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ened.” Response: Section 3 of the manuscript has now been shortened and part of the material merged into section 4.

C3066: Suggestions directly related to the text: Response: All of these detailed comments have been addressed in the revised manuscript. Regarding references to prior work on soil types and climate in the HOAL, prior work has mainly been summarised by internal reports which are not citable.

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