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Hydrology and Earth System Sciences Discussions

Interactive comment on "Combining semi-distributed process-based and data-driven models in flow simulation: a case study of the Meuse river basin" *by* G. Corzo et al.

G. Corzo et al.

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We thank the reviewer for the valuable comments. Following his/her suggestions we have brought the changes to the manuscript (which however will be uploaded only when the comments of all reviewers will be available). The replies to the Specific comments follow:

1. Last sentence in the Abstract has been changed.
2. The paragraph in section 3.2.2 was modified to explain the replacement and the reasons to select particular basins better. The hydrograph figures of the basins were added as well.

3. Table showing the data availability was added.

4. The values in the table have been updated

5. See item 2.

6. Indeed if we would have had more time, additional effort to analyse the performance of different DDMs, for routing, could have been done. (Note, we did this for choosing the DDMs for the RR models). The use of ANN for routing was based on the widely accepted opinion and experience that ANN is a robust and accurate DDM, and is the first choice (and often the best one) for a DDM model. This explanation was added to the manuscript.

7. We agree with the reviewer, these paragraphs indeed belong more to the discussion, they have been moved accordingly.

8. The basin names are mentioned in Table 3.

9. Statement has been corrected.

10. We still think that Figure 7 is useful. It shows the spread of the samples in verification and training and helps to visualize model errors. Figure 8 was indeed not fully represented (technical error), and now it is improved: the improvement in the low flows mentioned in the text can be now easily seen.

11. Indeed, eventually it would be a right thing to do. However, time for this research was limited and this is planned for the subsequent study.

12. All corrected.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 729, 2009.