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Interactive Comment

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.

Received and published: 30 May 2009

We thank the editor for really valuable comments. Following her suggestions we have brought several changes to the manuscript. The suggested additional experiment (ANN routing with basin replacements) was performed but no significant improvement was found, and this is now reflected in the manuscript.

All recommendations were taken into account and they will be reflected into the uploaded paper for the final publication. The following are the replies to some of the comments:

1. The paragraphs have been removed.



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- 2. Diagram of the model integration was included.
- 3. At this stage part of the paper a reference to the Muskingam-Cunge formula have been added to help the reader. The formula is added into the methodology to clarify the replacement scheme 2.
- 4. The following paragraph was added "The model used for this study (IHMS-HBV-96) was calibrated and validated by van Deursen (2004) for the basin upstream of Borgharen over the period 1969-1984 and 1985-1998, respectively." However, other tables have been added as suggested by referee No. 1
- 5. The sentence has been reformulated clarifying that we used correlation and AMI to obtain the best lags.
- 6. A graph showing the basins and their lag times is included.
- 7. Added as mentioned in the answer to reviewer 1.
- 8. Line removed.
- 9. The sentence indeed may be misleading. so a correction highlighting different approaches to forecast multi-time step ahead have been referenced.
- 10. Figure 4 have been updated and separated as suggested.

The suggested movement of some paragraphs we found reasonable and this was done as well.

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