

Interactive comment on “Gauging the ungauged basin: how many discharge measurements are needed?” by J. Seibert and K. Beven

Anonymous Referee #1

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This is a good paper, well written and organised. It addresses an important issue, namely the value of data in conditioning rainfall-runoff models. Although this issue has had some exposure in the literature, this is one of the first attempts to formally address the issues in a systematic approach, and is based on the use of different numbers of data points, selected according to a variety of sampling strategies, for a set of 11 Swedish catchments. The results are interesting, in that limited spot-sampled data are shown to have a potentially large effect in improving model performance. However, a large number of unanswered questions remain, as the performance is highly variable between catchments, years, and sampling strategies, and this will provide an agenda for the research community to address.

I note that it would be interesting to compare the use of limited site specific data with a

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regionalisation approach to the constraint of model parameters.

I note that long term mean potential evaporation was used – can the authors comment on the extent to which this compromises model performance?

Note misuse of brackets in referencing, e.g. page 2279, lines 3, 5

Recommendation: Publish with minor corrections.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 2275, 2009.