

Home

Online Library HESS

- Recent Final Revised Papers
- [Volumes and Issues](#)
- Special Issues
- Library Search
- Title and Author Search

Online Library HESSD

Alerts & RSS Feeds

General Information

Submission

Review

Production

Subscription

Comment on a Paper

Impact
Factor
2.270

ISI
indexed



[Volumes and Issues](#) [Contents of Issue 3](#)

Hydrol. Earth Syst. Sci., 7, 317-324, 2003

www.hydrol-earth-syst-sci.net/7/317/2003/

© Author(s) 2003. This work is licensed under a Creative Commons License.

Testing the transferability of regression equations derived from small sub-catchments to a large area in central Sweden

C. Xu

¹Department of Earth Sciences, Hydrology, Uppsala University Villavagen 16, 75236 Uppsala, Sweden

²Nanjing Institute of Geography and Limnology, Chinese Academy of Science
E-mail: Chong-yu.Xu@hyd.uu.se

Abstract. There is an ever increasing need to apply hydrological models to catchments where streamflow data are unavailable or to large geographical regions where calibration is not feasible. Estimation of model parameters from spatial physical data is the key issue in the development and application of hydrological models at various scales. To investigate the suitability of transferring the regression equations relating model parameters to physical characteristics developed from small sub-catchments to a large region for estimating model parameters, a conceptual snow and water balance model was optimised on all the sub-catchments in the region. A multiple regression analysis related model parameters to physical data for the catchments and the regression equations derived from the small sub-catchments were used to calculate regional parameter values for the large basin using spatially aggregated physical data. For the model tested, the results support the suitability of transferring the regression equations to the larger region.

Keywords: water balance modelling, large scale, multiple regression, regionalisation

[Final Revised Paper](#) (PDF, 784 KB)

Citation: Xu, C.: Testing the transferability of regression equations derived from small sub-catchments to a large area in central Sweden, Hydrol. Earth Syst. Sci., 7, 317-324, 2003. [Bibtex](#) [EndNote](#) [Reference Manager](#)

Search HESS

Library Search

Author Search

News

- New Service Charges
- Financial Support for Authors
- ISI Impact Factor: 2.270

Recent Papers

01 | HESSD, 12 Mar 2009:
Distributed modeling of land surface water and energy budgets in the inland Heihe river basin of China

02 | HESSD, 12 Mar 2009:
Comparison of six algorithms to determine the soil thermal diffusivity at a site in the Loess Plateau of China

03 | HESS, 11 Mar 2009:
Large-scale lysimeter site St. Arnold, Germany: analysis of 40 years of precipitation, leachate and evapotranspiration