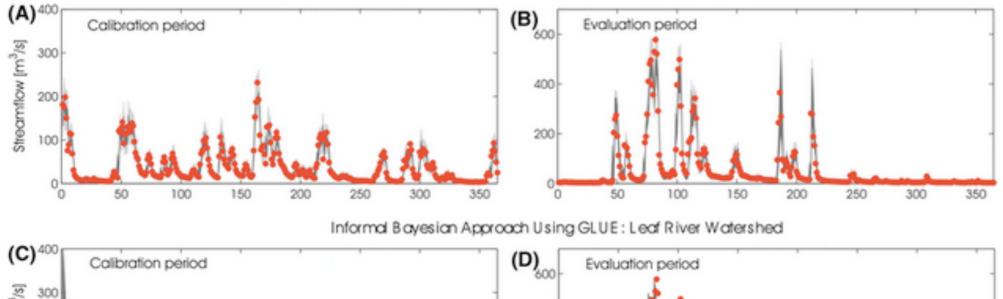


## Calibration - Beyond GLUE: Sampling the parameter space -Optimization and Formal Bayesian

Eormal Bayesian Approach Using DREAM: Leaf River Watershed



(C) 400 Calibration period (D) 800 Evaluation (D) 80

Fig. 5

Streamflow prediction uncertainty ranges derived with DREAM (top panels) and GLUE (bottom panels) for a representative portion of the calibration (left column) and evaluation period (right column) for the Leaf River watershed. In each DREAM graph, the dark gray region represents the 95% confidence intervals of the output prediction due to parameter uncertainty, whereas the light gray region represents the additional 95% ranges of the prediction uncertainty. For GLUE the 95% prediction quantiles are presented. The solid circles denote the streamflow observations

H.V. Gupta, B.A. Robinson Equifinality of formal (DREAM) and informal (GLUE) Bayesian approaches in hydrologic modeling? Stochastic Environmental Research and Risk Assessment, 44 (2008)http://dx.doi.org.proxy.library.ucsb.edu:2048/10.1007/s00477-008-0274-

J.A. Vrugt, C.J.F. ter Braak,

Generally found similar results using GLUE and formal MCMC alibration and uncertainty estimation