

Problem:

model selection based on performance AND calibration

- Parameter optimization/evaluation: will not be robust
- calibration period
- performance measure
- input/measurement errors
- concept of equifinality

Beven, JH, 2006, Manifesto for the Equifinality Thesis

A possible solution:

Generalized Likelihood Uncertainty Estimation (GLUE)

- assess the likelihood of different models + parameters being good predictors of the system of interest
- reject (give zero likelihood) those models that are clearly not good predictors of calibration data
- Can be done with different model structures as well as different parameter sets