Geosci. Model Dev. Discuss., 5, C124–C125, 2012
www.geosci-model-dev-discuss.net/5/C124/2012/

**Geoscientific
Model Development
Discussions**

Interactive comment on "Land surface Verification Toolkit (LVT) – a generalized framework for land surface model evaluation" *by* S. V. Kumar et al.

Anonymous Referee #1

Received and published: 5 April 2012

This is a well-written document describing the LVT, a comprehensive tool for evaluation of land-hydrology models which includes a number of insightful methods of model evaluation, from model parameter estimation and evaluations against satellite data to the characterization of uncertainty diagnostics (among the many topics they describe with interesting, useful and informative examples), using various types of data sets (single-point as well as remote sensing/spatially-distributed) in the LVT analyses. Combined with LIS, this is truly an end-to-end system for land modeling and evaluation.

Only a couple of (minor) questions/comments:

section 5.1 An end-to-end example of the MDF paradigm "Figure 3 shows a comparison of the mean diurnal cycles of latent and sensible heat fluxes... The calibration of model parameters helps in improving the model performance..." » INTEREST-

ING –WHAT PARAMETERS? (JUST CURIOUS) THIS IS NOT REALLY SO IMPORTANT SINCE PRESUMABLY, USING LVT THE QUESTION OF ROBUSTNESS OF THE CALIBRATED PARAMETERS FOR OTHER SEASONS/REGIONS MAY BE ASSESSED.

section 5.2 Example of model evaluation against satellite data "High values of POD and low values of FAR are observed over the Central Highlands region of the domain, suggesting a high degree of accuracy of model snow cover estimates over these areas. Over the northeast parts of the domain ... model simulations are less accurate..." » AGAIN, PRESUMABLY SOME LVT OPTIONS MAY BE USED TO INFER THE POSSIBLE EXPLANATION(S) OF THE PERFORMANCE NOTED HERE (SNOW ACCURACY DIFFERS BY REGION IN THE DOMAIN). (AGAIN, JUST CURIOUS)

Thank you.

Interactive comment on Geosci. Model Dev. Discuss., 5, 229, 2012.