Geoscientific
Model Development
Discussions

Open Access

Interactive
Comment

Interactive comment on "Validating a 1-D SVAT model in a range of USA and Australian ecosystems: evidence towards its use as a tool to study Earth's system interactions" *by* G. P. Petropoulos et al.

Anonymous Referee #3

Received and published: 6 April 2015

The authors claimed that "SimSphere's use is rapidly expanding worldwide as both a research and educational tool alike". However, I could not find many studies using this model in the published literature, except for the papers by Petropoulos. Therefore, this is overstated and is understandable that "to our knowledge, validation studies involving direct comparisons of model predictions against in situ observations have as of now been scarce and incomprehensive." My question to the authors is that, what is the purpose of using this model instead of using other more popular models such as JULES in the U.K., CABLE in Australia, and many others in the U.S.?

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

It is very overwhelmed to read so many numbers (statistics) in the Results Section. I highly suggest to list less numbers. Instead, it would be better to include some in-depth interpretation.

Figure 1 was published in several papers by the authors already. Will there be a copyright issue to publish it again? Is it necessary to include it here?

If I understand correctly, the model was initialized with observed values, which is problematic. This might be the reason that the model shows high performance skills during the several months of simulation. If the model was run for additional years, the influence of initialization will be small and hence the model is expected to show poor skill.

Why does the model need to simulate incoming solar radiation and air temperature? Since these two variables are commonly measured, why can you treat them as model inputs?

This study evaluated the model for only 72 days. This is definitely not enough. It has to be at least several years.

Table 3 to Table 8: Why did you calculate the statistics for each day? Is this necessary? These tables are difficult to read. I suggest the authors find a better way to show these results.

Figure 4 to Figure 9: These figures can be combined into just one figure.

Interactive comment on Geosci. Model Dev. Discuss., 8, 2437, 2015.