

## **Review Comments on**

### ***Development of high resolution land surface parameters for the Community Land Model***

***by Y. Ke, et al.***

#### **General comments**

In this paper, a high resolution (0.05 degree) dataset of land surface parameters has been developed for the most recent version of CLM (Community Land Model). The dataset is primarily based on the MODIS products. The dataset is featured with high spatial resolution (compared with the default CLM 4.0 parameters) and internal consistency (information is all based on satellite observations in the same year). In my opinion, the dataset may be useful as it may facilitate the use of CLM at spatial resolution finer than the default CLM setting. Although some arbitrary approximations such as the generation of PFT are applied, it seems a technically reasonable choice taking the remote sensing data used and spatial resolution they are working on. I would like to encourage the authors to clearly state the assumptions made in their procedure and evaluate the uncertainty associated with the assumptions when possible. The difference between the dataset and what have been done in Lawrence and Chase (2007) may be further clarified.

#### **Specific comments**

The year of 2005 was used in this paper. Is there a particular reason for using 2005 rather than the climatology in (a part of) MODIS period? If time-varying data are not applicable, it seems to me the climatological data are more useful.

Although the WRF-CLM experiment demonstrates the use of the dataset, it takes away focus of the paper because it does not add much valuable information on the advantage of using the dataset without comparison with a control experiment.

#### **Technical corrections**

Figs. 1, 2, 4-7, and 10. Although we may guess the corresponding panel according to the words on the top-left, it is better to include the panel names in the caption of the figures.

Fig. 11. There is a sharp edge at the top and right sides in panel (c) and (d).