

## ***Interactive comment on “Determination of land surface heat fluxes over heterogeneous landscape of the Tibetan Plateau by using the MODIS and in-situ data” by Y. Ma et al.***

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The determinations of heat fluxes over the heterogeneous surfaces are essential to the land surface process research. This manuscript demonstrates a technique to estimate the land surface heat fluxes using MODIS and precious in-situ data over the Tibet region. This is a very valuable research on the regional heat flux estimates. It is also one of the most important research issues in the water and energy balance studies for climatic and hydrological researches. The technique presented in this manuscript is also very interesting. The manuscript is well organized, and the results are quite accurate compared with observations. The manuscript is investigating the possibility to

C8260

upscale patch-scale observations to regional scale by introducing satellite data, which is an important topic in data assimilation and surface processes studies. The science and technology described in this paper are good to make an acceptable publication in ACP. I suggest that this manuscript should be accepted for publication in ACP. However, the following questions are needed to be considered.

1. What is the different between your Article in 2006(Ma, Y., Zhong, L., Su,Z.et al., 2006, Determination of regional distributions and seasonal variations of land surface heat fluxes from Landsat-7 Enhanced Thematic Mapper data over the central Tibetan Plateau area, J. Geophys. Res.-Atmos., 111, D10305, doi:10.1029/2005JD006742) and this paper?
2. Why only four scenes MODIS data were used in your study?
3. How can you determine each “tile” in your “tile approach”?

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