



Study on Land Surface Heating Field by Using Re-analysis data and Model over the Tibetan Plateau

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In this study, a land-atmosphere model was initialized by ingesting AMSR-E products, and the results were compared with the default model configuration and with in situ long-term CAMP/Tibet observations. Re-analysis data were also used to analyze the land surface heating field. Firstly our field observation sites will be introduced based on ITPCAS (Institute of Tibetan Plateau Research, Chinese Academy of Sciences). Then, a land-atmosphere model was initialized by ingesting AMSR-E products, and the results were compared with the default model configuration and with in situ long-term CAMP/Tibet observations. The differences between the AMSR-E initialized model runs with the default model configuration and in situ data showed an apparent inconsistency in the model-simulated land surface heat fluxes. The results showed that the soil moisture was sensitive to the specific model configuration. To evaluate and verify the model stability, a long-term modeling study with AMSR-E soil moisture data ingestion was performed. Based on test simulations, AMSR-E data were assimilated into an atmospheric model for July and August 2007. The results showed that the land surface fluxes agreed well with both the in situ data and the results of the default model configuration. Therefore, the simulation can be used to retrieve land surface heat fluxes from an atmospheric model over the Tibetan Plateau.