Land surface-atmosphere interaction on the Tibetan Plateau Observation and Infrared Remote Sensing

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ABSTRACT

Since 1998 when GAME conducted its Intensive Observation Period, observations of land surface-atmosphere interaction including four components radiation, turbulent eddy correlation fluxes and/or Bowen ratio fluxes and soil heat flux, have been continued through CEOP (CAMP-Tibet) project. Although it was not easy to maintain high quality observation over the Tibetan Plateau, a lot of data were obtained in good quality and analyzed. Unfortunately, the surface energy balance is, so far, not well established from in situ measurements in spite of various efforts to improve observation.

Together with these in situ measurements, infrared observations from geostationary satellite were used to retrieve surface temperature and derived surface fluxes. The use of geostationary satellite merits temporal resolution but dose not for spatial resolution. Considering the wide diurnal range of plateau fluxes, use of geostationary satellite is justified. From the retrieved surface fluxes, for example, the seasonal march of Bowen ratio over the Plateau is revealed and is compared with results of global objective analysis.

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