

Estimation of the soil moisture and land surface flux at the Tibet Gaize station by using land data assimilation system developed at the University of Tokyo

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ABSTRACT

The Land Data Assimilation System developed at the University of Tokyo (LDAS-UT) was applied to the Gaize Station at Tibetan Plateau for period of June to August 2007.

LDAS-UT consists of a land surface model (LSM) to calculate surface fluxes and soil moisture, a radiative transfer model (RTM) to estimate microwave brightness temperature, and an optimization scheme to search for optimal values of soil moisture through minimizing the difference between modeled and observed brightness temperature.

By applying LDAS-UT to Tibet Gaize station at dry period, the estimated soil moisture had some difference between observed one, but the sensible heat, latent heat and ground heat flux at same period had good agreement with observed one. The estimation for wet period, reasonable estimation of surface energy budget and soil moisture is achieved by LDAS-UT.

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